

THE NATIONAL Provisioner

THE MAGAZINE OF THE
Meat Packing and Allied Industries

Volume 101

DECEMBER 9, 1939

Number 24

A black and white illustration of a baby pointing towards a large can. The can has '1940' printed on it. The baby is holding a small sign that says 'VISKING SALES HELPS'. To the right of the baby is a circular stamp with the words 'JOHN CRAMPTON LTD' around the top and 'DEC 1939' in the center.

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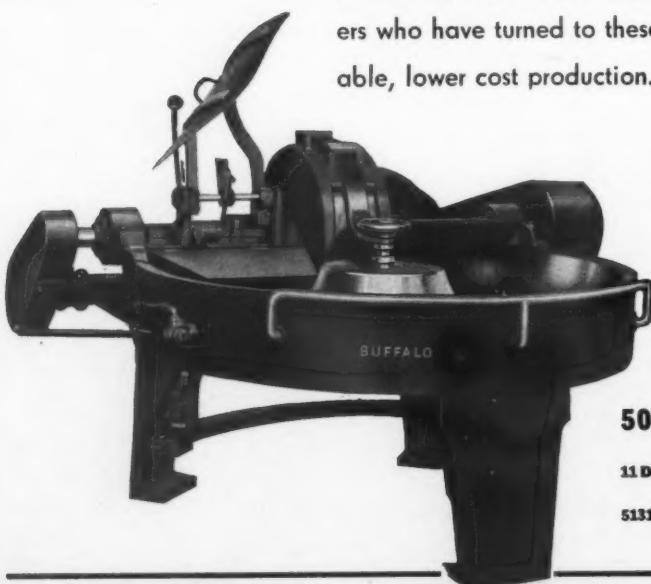
GIRARD PACKING COMPANY

Chooses BUFFALO Machines for New Sausage Kitchen

In the new plant of the Girard Packing Company in Philadelphia, recently opened and widely acclaimed one of the most up to date in the country, Buffalo Machines fill every key position of the sausage kitchen. And just as the new plant is the latest thing in construction and layout, so are the new Buffalo Machines in that plant the very latest and most up to date sausage production units available.

The New Buffalo 800-lb. Capacity Self-Emptying Silent Cutter, The New 78B Helical Gear Drive Grinder, The Buffalo Mixer, Three 400-lb. Leak-Proof Buffalo Stuffers, Two Casing Appliers, an Ice Crusher and the New Buffalo Smoke Master are all at work in this new Girard plant.

And Girard Packing Company is just one of the many outstanding packers who have turned to these new Buffalo Machines for faster, more profitable, lower cost production.



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In Weeks to Come

THE royalty of meat livestock will pass in review next week in an account of happenings at the International Live Stock Show. A highly efficient set-up for slicing, wrapping and packaging bacon will be described in an early issue of THE NATIONAL PROVISIONER. Packers will find out what retailers want in point-of-sale display material in an article scheduled for early appearance in this magazine.



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Daily Market Service (Mail and Wire)

"THE NATIONAL PROVISIONER DAILY MARKET SERVICE" reports daily market transactions and prices on provisions, lard, tallow and greases, sausage materials, hides, cottonseed oil, Chicago hog markets, etc.

For information on rates and service address The National Provisioner Daily Market Service, 407 S. Dearborn St., Chicago.

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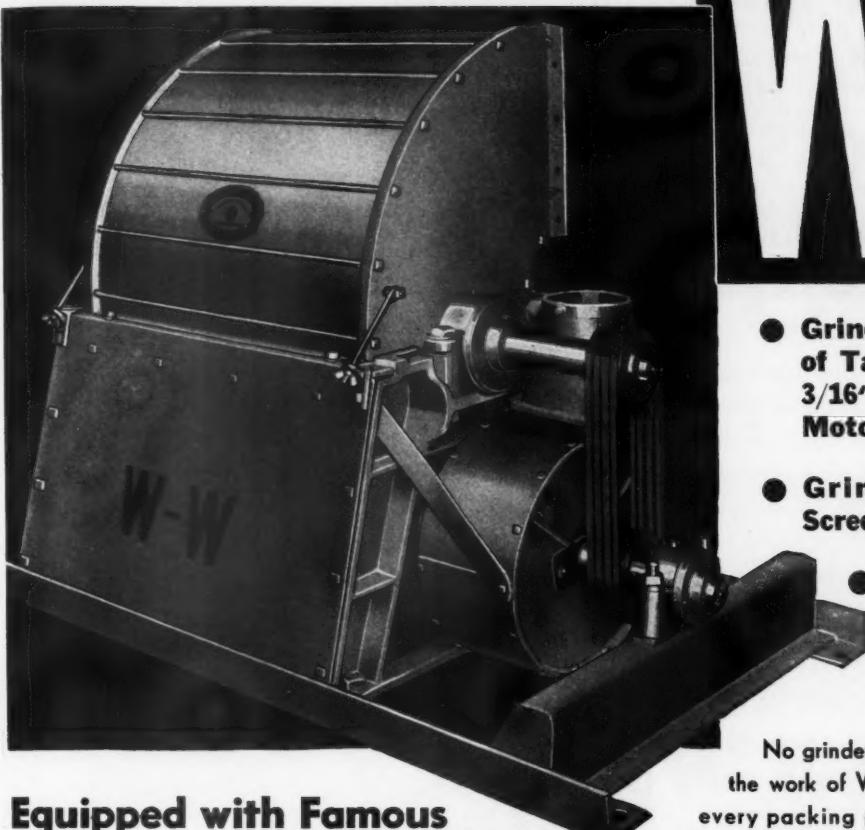
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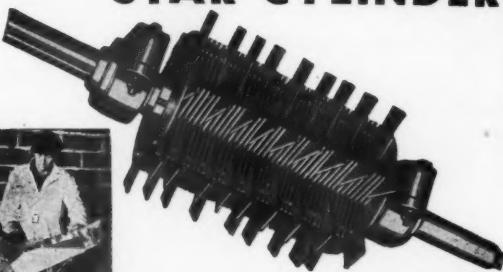
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**Equipped with Famous
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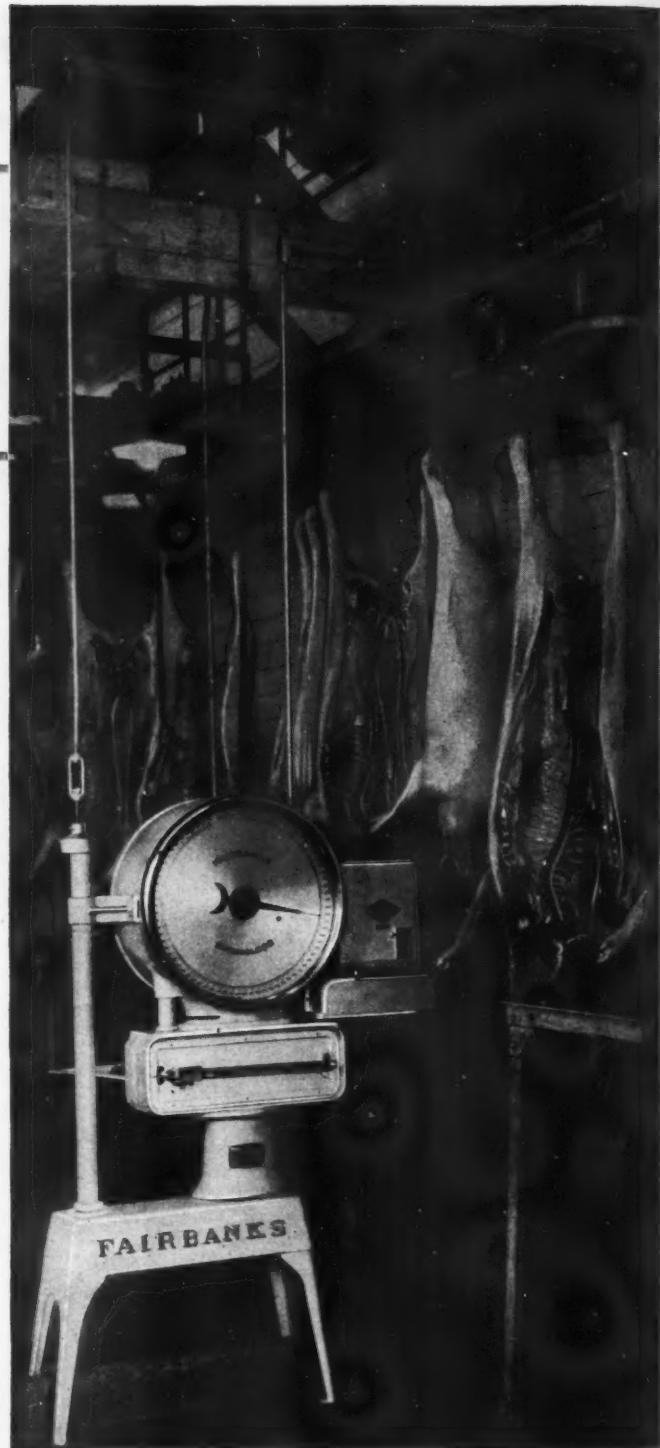


THIS SCALE KEEPS BOOKS IN A PACKING PLANT

● In order to speed up dressing operations and provide an accurate check of the actual number of hogs passing through their plant, Elliott and Company, meat packers of Duluth, Minn., installed a Fairbanks Hog Weighing Scale and Printomatic Weigher in their monorail conveyor system.

Correct weight of each hog is automatically recorded by the Printomatic Weigher. This installation also provides an accurate check on the number of hogs passing through the plant, while the printed weight records of dressed hogs permit determining the loss between live and dressed weights.

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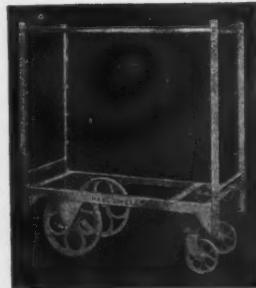


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Your Sausages Sell with*

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...the Housewives—Your Real Customers!

That's just common sense, Mr. Sausage Maker. The housewife who buys your product controls your sales . . . she's the one who must be satisfied.

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tightly to the sausage and keep it in shape...and they do a superior job of protecting the fresh juiciness of your product. Those are all attributes that can't be ignored, because they mean a better product and bigger sales—every one of them.

And you can be sure of finest quality in natural casings—by buying Armour's. Then you know you're getting natural casings that are perfect in every respect...uniformly graded...made to live up to the strict standards of excellence for which Armour and Company are known. Give your next order to your local Armour Branch House.

ARMOUR'S NATURAL CASINGS

ARMOUR AND COMPANY • CHICAGO

THE NATIONAL PROVISIONER

The Magazine of the Meat Packing and Allied Industries

DECEMBER 9, 1939

INNOVATIONS FEATURE NEW PLANT

Girard Plant at Philadelphia Designed and Equipped for High Processing Efficiency

FEW smaller plants constructed in recent years have aroused the interest which has been shown by packers and sausage manufacturers in the new home of the Girard Packing Co., Philadelphia, Pa. Although the plant has only been in operation since November 19, it has been inspected and studied by a great many meat men.

These are unanimous in their opinion that in design, construction, layout, equipment and facilities for obtaining high processing efficiency, this building sets a new standard for meat plants. Many of them have said that it is not less than five years ahead of the times.

The building is three stories high and of brick, reinforced concrete and steel construction. It has frontage on two streets and is 125 ft. wide and 133 ft. long. It is designed for processing only, and is equipped to handle beef, veal, pork and lamb carcasses and to process smoked meats, sausage, meat loaves and ready-to-eat specialties. It is located at 10-18 North Delaware ave. on the Delaware river front, is served by railroad switch tracks and is

across the street from docks of important steamship lines.

The building is conspicuous from the street; its fresh, clean appearance and modern, pleasing lines cause it to stand out in sharp contrast to the older structure adjoining it. However, it is not only the pleasing design which impresses the meat man seeing it for the first time. The plant radiates utility and efficiency. One senses immediately that no effort and expense have been spared to incorporate in it all that is most modern and efficient.

Passers-by See Quality Product

The Delaware ave. elevation of the building is shown in an accompanying illustration. Small door at left opens into office vestibule. Large double doors connect with the air-conditioned shipping room. Area to the right on the first floor is occupied by the finished product cooler. A plate glass window permits pedestrians to look into this room with its racks of high-quality products ready for shipping and to watch operations in it. Many take advantage of this opportunity to observe one phase of meat packing. Curing cooler occupies front portion of second floor of building and the sausage manufacturing room a similar area on the third floor.

Exterior walls at front and rear are of buff brick with decorations of dark brick. Side walls are of common brick, some of which, taken from old buildings which had



ULTRA-MODERN IN DESIGN

New plant of Girard Packing Co., Philadelphia, Pa., described by packers who have visited it as "not less than five years ahead of the times." It contains many new ideas for speeding up handling and processing operations which are described in the accompanying article.

occupied the site, were imported from England in early Colonial days. Foundation is of face stone from demolition.

Glass blocks comprise much of the wall area at front and side of office space on first floor, and such blocks are also used to a limited extent at other points. Steel and wood sash are used elsewhere, glazed with various types of glass to meet exposure and light conditions.

Floors and roof are concrete slabs. Floor in shipping room was cast without expansion joints. Packinghouse brick floors are used in all departments, including the air-conditioned smokehouses, where their use is an advantage. Brick tile walls are installed in shipping room, processing departments and employees' rooms.

An interesting detail of design is the use of actinic glass in the skylights. This glass is of particular value in these locations. It offers little more, or no more, obstruction to passage of light than ordinary glass, but it reduces considerably the amount of solar heat transmitted. Its use in the skylights of processing rooms is a distinct aid in preventing temperatures in these departments from reaching high levels.

Keeping Upper Floor Cool

It is believed that this is the first time this type of glass has been used in skylights in inspected meat plants. While its value has been appreciated by meat men and packinghouse architects for some time, it was thought that product colors were distorted when seen in the light passing through this glass. It has been demonstrated that this is not true. It may be expected that this glass will find general application in meat plants. Continuous vents are used for the full length of each skylight.

Sausage manufacturing room, smokehouses and cooking and showering equipment are located on top floor. None of these rooms is refrigerated. To aid in maintaining a comfortable working temperature in this area in warm weather, a flat roof insulated with 2 in. of cork has been installed. This roof is constructed so that the entire area may be covered with several inches of water when desired. An overflow is provided so that the depth of the water never exceeds the predetermined limit. Roof is flooded with water from the ammonia condenser; this water is not re-used but is wasted to the sewer.

Another unusual construction feature, and one which illustrates the care with which all materials used were examined in the light of the service required of them, are brick floors in the air-conditioned smokehouses. All product will be handled into and out of the smokehouses on cages. Floor truck wear, therefore, did not influence the decision to use bricks in this location. This material was installed solely on determination—as a result of tests—that bricks stand up better than concrete under conditions of heat, moisture and grease.

Accompanying floor plan sketches show how the various floors are laid



OFFICERS AND ARCHITECT

UPPER (left to right): Abe Rabinowitz, president, and Irving Rabinowitz, secretary.
LOWER (left to right): William Rabinowitz, treasurer, and Morris Fruchbaum, architect.

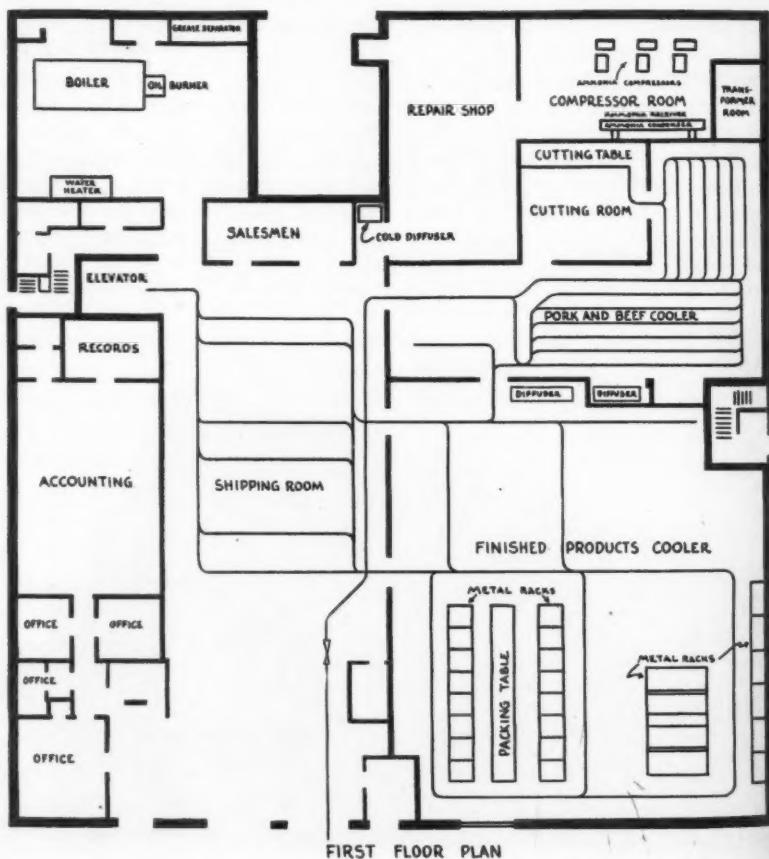
out and the location of processing departments and coolers in relationship to each other. Flow of raw material and finished product to coolers, processing departments and shipping cooler may be visualized from these plans.

Offices, compressor room, boiler room, repair shop, carcass holding cooler, finished product cooler and shipping room are located on first floor. Some interesting ideas have been worked into this first floor plan. Among these are niches for the unit coolers to provide unobstructed floor space, a salesmen's room at the far end of the shipping cooler and a novel overhead tracking arrangement in the combination beef and hog cooler. By this latter arrangement, hogs are transferred from the entrance rail, 8 ft. 6 in. high, over a rail ramp to the hog rails, which are 7 ft. 8 in. high.

General and private offices are cooled in hot weather with well water having a temperature of 56 degs. F. General manager's office is at the front of the office area adjoining the shipping room. Plate glass windows in the partition separating the two rooms make it possible to observe operations of shipping and other activities in the department.

First Floor Coolers

Carcass cooler, finished product cooler and shipping room are refrigerated with dry coil units; ducts are employed in these rooms to secure uniform air distribution. The following temperatures are maintained in these rooms: Carcass cooler, .33 degs. F.; finished product cooler, 45 degs. F., and shipping room, 50 degs. F. Dew point temperature of shipping cooler is maintained below temperature of meats entering the room



from finished product cooler to prevent condensation on product.

Finished product cooler is equipped with both overhead rails and galvanized iron racks for storing product. Some processing operations, including bacon slicing and wrapping and frankfurts skinning and packing, are performed here.

Compressor room has been placed in line with the coolers. Repair shop adjoins compressor room and is close to the elevator. This arrangement is convenient when equipment must be brought from upper floors when servicing is required.

Second Floor Layout

Second floor is occupied by combination curing cooler and sausage meat preparation room, dry storage room and defrosting and pumping room. Brine tank, to which salt is chuted from floor above, is also located here. The most interesting features of this floor are the location of various rooms with respect to loading dock and elevator, and methods of handling product. These are described later in this article.

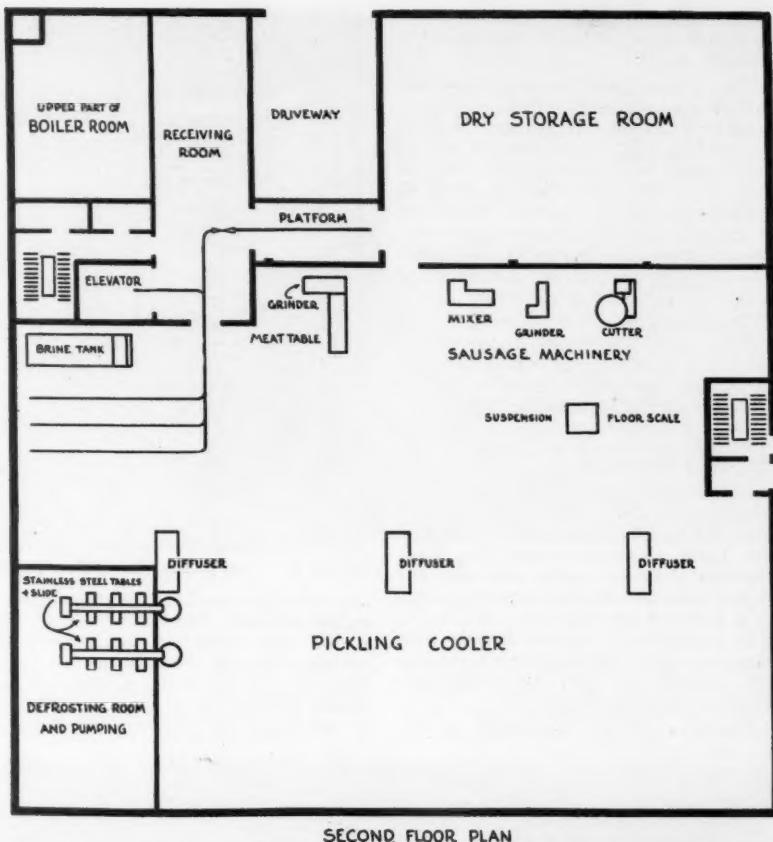
Combination curing cooler and sausage meat preparation room is maintained at a temperature of 38 to 39 degs. F. The particular advantages of placing cutting, grinding and mixing equipment in the curing cooler are a reduction in handling of product and a reduction in the time required to transport meat from the cooler to the cutting and grinding machines—there being no doors to open and close.

Some packers and sausage manufacturers, while recognizing the savings in combining the curing cooler and sausage meat preparation room, have questioned the advisability of such an arrangement. Their objections are that the output of workers would be seriously impaired in the relatively low temperature required, and that the equipment will not "stand up" satisfactorily where large quantities of salt and brine are employed.

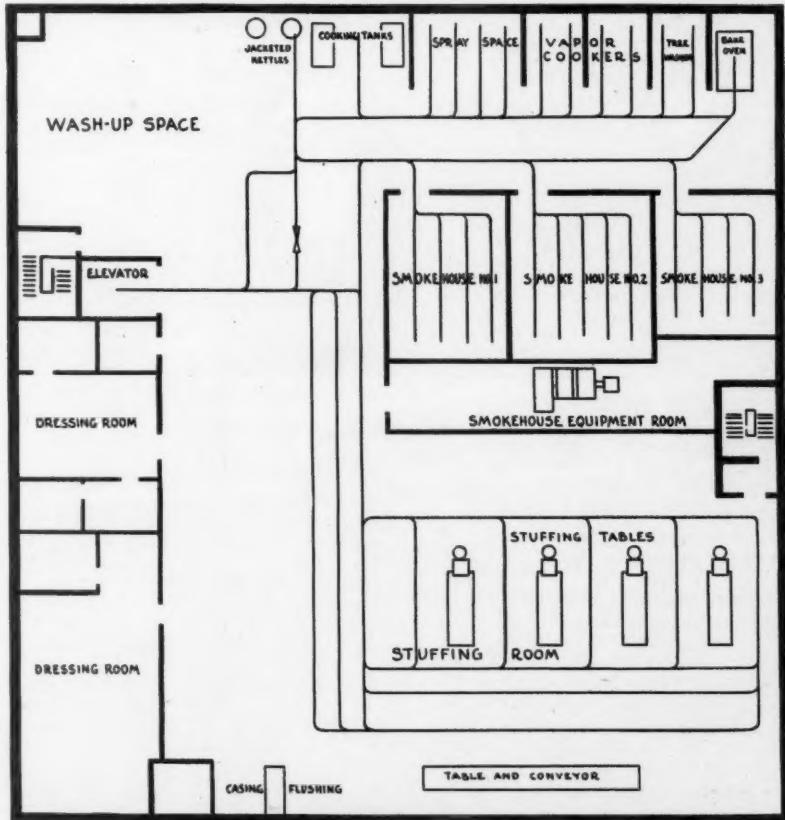
Workers in Low Temperature

There is no evidence that workers operating cutting and grinding equipment in the Girard plant perform their work any less efficiently in a temperature of 38 degs. F., than at a temperature of, perhaps, 55 degs. The effect, if any, of salt impregnated air on machinery remains to be determined. It should be stated, however, that the cutting, grinding and mixing machines are installed between the wall and a line of columns. Should it be necessary to do so, an inexpensive wall can be installed to isolate equipment from curing cooler. However, it is not expected that this separation will be required.

All refrigerated rooms are located on first and second floors and are equipped with Jamison cooler doors provided with metal protecting strips on outside, side and bottom and with metal guards to prevent damage to spindle. Jamison track flaps are designed to open the full distance regard-



SECOND FLOOR PLAN



THIRD FLOOR PLAN

less of distance the door may be opened. Cork board insulation is used throughout.

Third floor houses sausage manufacturing room, smokehouses, cookers, shower, equipment cleaning facilities, etc. Rooms and equipment are located to secure maximum of straight line production with little back-tracking of product during processing. Employees' rooms are convenient to all departments. Windows on four sides and skylights in the roof provide an abundance of light in all rooms on this floor.

The location of the foreman's office is an interesting detail in the layout of this floor. The office is provided with large windows and is placed so that all portions of the sausage manufacturing room may be seen from it.

Product Handling

Shipping dock is at front of plant and receiving dock at rear. All trimmings, material and supplies are delivered at the rear. Carcasses enter the plant through shipping room and are unloaded directly from refrigerator cars on a portable rail supported on tripods. This portable rail connects directly with shipping cooler rail on which carcasses are weighed and over which they are delivered to shipping cooler.

There is one floor difference in ele-



CURING COOLER

All curing tierces stand on skids. Lift trucks are used to transfer cured meats in the tierces to points where other processing operations are performed.

vation between front and rear of the plant. The receiving dock, therefore, connects directly with the second floor. This has simplified the problem of reducing to a minimum the cost and time of handling material and supplies. A

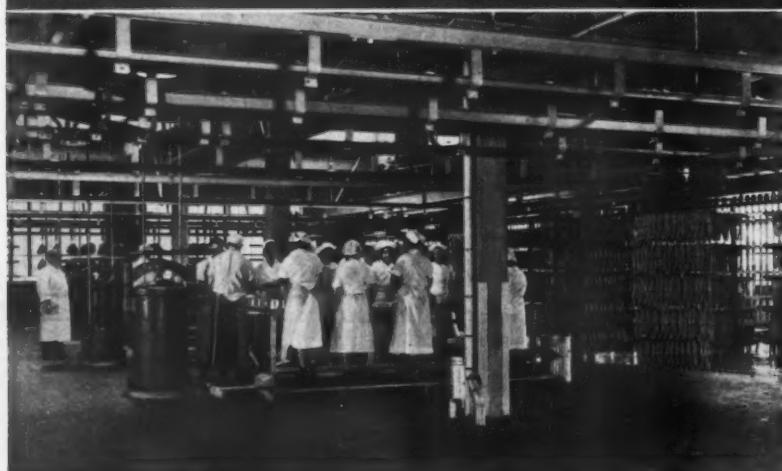
dry storage room, the elevator which connects the three floors, and the curing cooler are located conveniently in relation to this second floor receiving dock. Elevator is equipped with a rail and trucks or cages can be handled on it with equal facility.

The use in the Girard plant of lift trucks and skids to speed up handling and reduce the cost of transferring product will be of much interest to packers and sausage manufacturers.

Transporting Pumped Hams

Meats are defrosted and pumped in a refrigerated room adjoining the curing cooler. Stainless steel pumping tables are constructed with a height of 54 in. from floor to pumping scale platform. The scale platform is about 3 in. higher than the curing tierce, which stands on a skid alongside the table. A pumped ham, therefore, is merely slid off the scale and drops into curing tierce. When required number of hams is in the container, the tierce is picked up with lift truck and is moved into curing cooler and placed in location it will occupy during curing. One time-consuming operation—the transferring of hams from trucks in which they are usually placed after pumping into curing tierces—is eliminated.

Tierces stand on skids while meats are curing and can be transferred easily and quickly from one location to another. The pickle is drained from the tierce when the product is cured and the meats, still in the tierce, are moved with the lift truck by elevator to the



SAUSAGE MANUFACTURE

ABOVE.—Sausage meat cutting and grinding equipment is installed in a section of the curing cooler.

BELOW.—Three 400-lb. capacity stuffers are in use. Stuffing tables are of stainless steel. Space is available for installation of another stuffing unit.

table on the third floor where they are washed, strung, stockinetted and hung on cages for smoking.

Curing cooler is maintained at a temperature of 38 degs. F. It is suitable, therefore, for holding trimmings for curing and is also used to store linked sausage overnight before smoking. A railed portion of the room adjacent to the elevator is used for this purpose. Sausage is brought to the cooler from sausage manufacturing room on the third floor by elevator.

Ground and cut meats are transported in trucks from cutting and grinding machines to sausage room on the third floor. All product, including hams, butts, etc., is hung on cages for smoking and remains on cages through all subsequent processing operations and until it is delivered to the finished product cooler. Meats may be stored on cages in this room or transferred to galvanized iron storage racks.

Equipment in the Plant

Power for operating plant equipment is purchased from the local utility company. Steam for cooking and heating is generated at 80 lbs. pressure in a 150-h.p. oil-fired, Scotch marine type boiler. Suspended type unit heaters are used throughout the plant for space heating. Boiler fuel is stored in a 3,000-gal. tank under the receiving dock driveway.

Refrigeration is supplied by one 6½-in. by 6½-in. and two 5-in. by 5-in. York ammonia compressors equipped for automatic operation. Water for ammonia condensers is supplied from a 70-ft. well in compressor room.

York dry coil unit coolers, selected to maintain the desired temperature, air movement and percentage of relative humidity, are used. These units are designed with sufficient coil surface so that the spread between room and coil temperatures is quite small. Such frost as collects on coils during the "on" cycle, therefore, is melted during the "off" cycle. Defrosting is never a problem.

Grease separator is installed in the boiler room. All grease is removed from the plant through a cellar exit and is not transported or handled in any portion of the building where edible products are processed or stored.

A Model 4A, 1,000-lb. capacity mixer with stainless steel tub; three 400-lb. capacity air stuffers; two casing appliers; one ice crusher; one Model 70B, 800-lb. capacity self-emptying silent cutter, and a 78B grinder, rated at 15-,



CARCASS COOLER

Note inclined rail in foreground over which hogs and beef quarters are transferred from the high to the low rails.

000 lbs. capacity per hour, are installed for preparing sausage meat. All of this equipment was supplied by the John E. Smith's Sons Company.

To prevent damage from salt corrosion, starters for motors driving these machines, as well as the starting switches, are placed behind the partition in dry storage room. Only the operating handles, properly gasketed and labeled, extend through the partition into the room with the machines.

Stuffing tables are of conventional design and are constructed of stainless steel. Space is available for installation of a fourth table. Two types of smokesticks are used—round wood and ½-in. Sherardized iron tubing open at the ends. These latter sticks have worked very satisfactorily in service. They are

SMOKING AND COOKING

1.—Smokehouse alley. Air-conditioned smokehouses are at right; oven, vapor cookers and shower are at left.

2.—Powers recording controllers which maintain required temperatures and relative humidities in the three air-conditioned smokehouses.

3.—Interior of one of the air-conditioned smokehouses. Heated air and smoke are introduced through duct at floor line in rear and recirculated by way of a plenum chamber above ceiling.

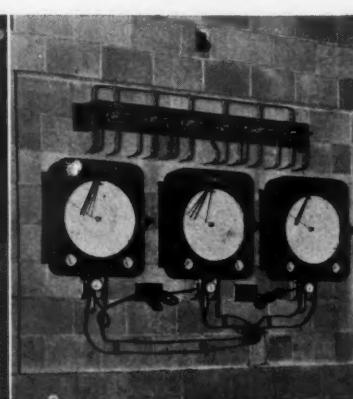
economical in first cost, light in weight and are easy to handle; they occupy small space and heat up quickly. Cages are of double trolley channel iron type.

A conveyor table at which hams, shoulders, butts, etc., are prepared for smoking is one of the unusual pieces of equipment in the sausage manufacturing room. Here the hocks are sawed, meats washed and strung, stockinette applied and meats hung on cages. Table is equipped with an endless steel mesh conveyor belt on which meats are transferred from one operation to another and has stainless side areas on which work is done.

Meats Handled Efficiently

Hocks are sawed on a band saw near the table. Washing is performed, while meats are on conveyor belt, in a compartment equipped with high pressure sprays which reach all portions of the cuts. Stringing and stockinetting are done in the usual manner. Much handling has been eliminated, the work has been speeded and labor costs have been reduced by confining the several operations of preparing cured meats for smoking to one small area and employing a conveyor belt to transport meats from one operation to another.

Three air-conditioned smokehouses with a total capacity of 70 trees are in-



PACKING AND SHIPPING

ABOVE.—Finished product cooler. Some processing operations, including bacon slicing and wrapping and frank skinning, are performed here.

BETWEEN.—Shipping cooler. Finished product and carcass coolers are at right. Note metal protecting strips on cooler doors.

ers control amount of smoke and fresh air admitted.

Temperature and humidity in each house are controlled automatically by Powers air-operated recording controllers mounted in the smokehouse alley. These instruments record wet and dry bulb temperatures and operate dampers in air ducts and valve on steam heating coil and steam humidifying spray to provide exact conditions required, and for which the instruments may be set.

An experiment, which will undoubtedly be followed by meat plant engineers and architects with considerable interest, is under way in the smallest of the three smokehouses. Anemostats have been installed at the ceiling to introduce smoke and heated air into the room. Smoke and air return duct in this room is placed at floor line in rear of house.

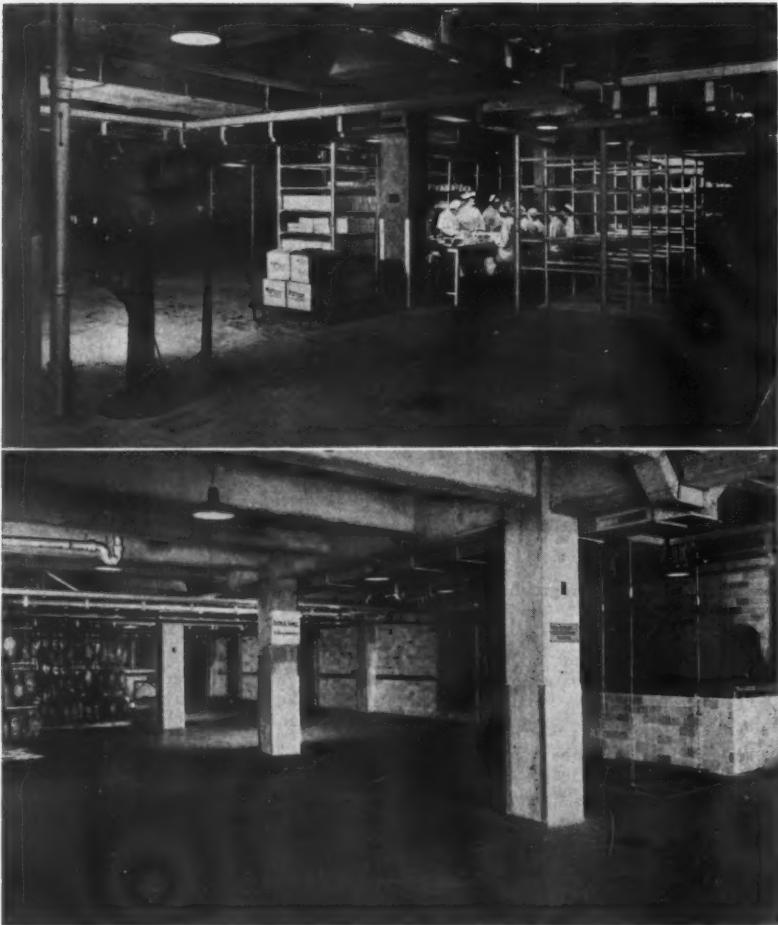
The Anemostat is an air diffusing device which is employed extensively in comfort air conditioning but which, until this time, has never been installed in air-conditioned smokehouses. It is said that it gives draftless distribution of any volume of air at any velocity. Equipment for this house is identical with that installed for the two larger houses and same method of controlling temperature and humidity is employed. As mentioned previously, however, direction of air and smoke travel is reversed.

Results in this smokehouse are not available at this time and may not be obtainable until the house has been tested under all conditions. Architect Fruchtbau and the executives of the Girard company anticipate, however, that results will be everything desired.

Cooking and Cleaning Equipment

Bake oven, tree washer, vapor cooker and showers are installed facing the smokehouses. Vapor cookers are of conventional design—that is, heat is supplied by steam coils submerged in water. These coils are usually constructed of black iron or steel. In this instance they are made of copper tubing. Expense of installation consid-

(Continued on page 41.)



stalled. These are designed to maintain any temperature, relative humidity and air movement required for smoking hams, bacon and all sausage products produced by the company.

Mechanical equipment for each house, including fans, heaters, ducts, filters, etc., and the Smokemaster which supplies smoke for all three rooms, is located at rear of houses in an equipment compartment.

These houses are similar in operation and equipment to other types of air-conditioned smokehouses which are being installed in increasing numbers in meat packing and sausage manufacturing plants. They were designed by Morris Fruchtbau, architect and engineer, who planned the plant. They do differ in details of equipment, how-

ever, from some other popular designs.

In the two larger houses the heated air and smoke and, when desired, fresh outside air, are introduced through a dampered duct at the floor line at the rear of room. After circulating through the room, air and smoke are exhausted through a perforated ceiling into a plenum chamber, from which they are conducted to heating coil and fan and re-circulated. Humidity is controlled by a damper in fresh air duct and a steam jet. All dust, dirt and soot are removed from air and smoke before they are introduced into the house. Damp-

GIRARD PACKING CO. TRUCKS

Panel type bodies are insulated and refrigerated with Ice-Fin units. Company has 12 trucks in service.



1,500 Young People Attend Wilson Day 4-H Dinner

FOR 22 years Thomas E. Wilson has been host to 4-H club boys and girls visiting Chicago at the time of the International Live Stock Exposition to attend the National 4-H Club Congress. This year 1,500 were entertained by Mr. Wilson at dinner and with a program on which many of the leading stars of stage, radio and the world of sports appeared. Awards offered by Mr. Wilson each year to winners in the meat animal livestock projects and in the junior feeding contest were presented at the dinner.

Leadership awards were presented by Edward F. Wilson, president of Wilson & Co. These awards are university scholarships and are given to the girl and boy winners in the national leadership contest. This is the third year that the junior Mr. Wilson has presented such awards.

The party has grown to such proportions that it is no longer held at the Wilson general offices in Chicago, but has moved downtown and took place this year in Medinah Temple on December 4. The young people came from 46 states and Canada and ranged in age from 12 to 18 years. They formed a part of the 32,000 who have been entertained by Mr. Wilson in the successive Thomas E. Wilson days which have featured each year's club congress.

4-H Pioneers Praised

Theme of the program and of the handsome souvenir book presented to each 4-H member and distinguished guests and civic leaders present, was "pioneers of 4-H club work." In addressing his guests at the dinner, Mr. Wilson said, "I am happy that we are privileged to honor those men and women whose unselfish interest in rural boys and girls and their needs, laid the foundation for this great organization."

He also paid tribute to the leaders who took up the work started by those pioneers and continued the development of the 4-H club movement to its present size.

"Too frequently," he began, "we hear it said that the last frontier in America is gone, that there no longer is any place for the pioneer spirit. But you who crave the adventure and excitement of pioneers still can find it open to you in all phases of modern life."

"America still needs pioneers to adjust science to the art of farming, and



MR. WILSON AND THE 1939 WINNERS

Ready to broadcast over NBC his presentation of awards to winners of the national meat animal livestock project contest and the junior livestock feeding contest, Thomas E. Wilson gave a message of welcome to his 1,500 4-H club guests on the 1939 Thomas E. Wilson Day.

the world needs pioneers in the field of human relationships.

"With the approach of Christmas we are doubly conscious of this latter need. Instead of peace and good will, the world is torn by hate. Our way, the 4-H way, is the way of friendliness in its largest sense; the value of it is learned in all 4-H community and national projects.

Spread Friendliness

"We must not wait for others to show friendliness first; rather, we should assume a kinder attitude toward persons in our community and then extend that toward America and the world.

"Working thus, these strata of friendship, when there are enough of them, shall weave a pattern of happiness for the whole of our world.

"You are the modern pioneers! A million and a quarter of you, convinced of the power of tolerance, can lay the foundations of a new world order."

This year's souvenir of the twenty-second annual Thomas E. Wilson Day contains a foreword by Mr. Wilson and by his son, Edward Foss Wilson; a statement by C. W. Warburton, director of extension work, U. S. Department of Agriculture on "The Early Growth of 4-H Clubs," a tribute to Dr. Seaman A. Knapp "who recognized the possibilities of farm young people organized in clubs in forwarding the agricultural extension program in its early beginnings," and a brief history of the pioneers of the club movement in each of the states.

Pen and ink sketches of some typical

(Continued on page 46.)

LEADERSHIP AWARDS

Edward Foss Wilson, president of Wilson & Co., awarding university scholarships to Willie Lee Ulrich of Texas and Dorothy Arvidson of Indiana, winners of the National 4-H Leadership Contest. This is the third year Mr. Wilson has made these awards, as another phase of the Wilson recognition of outstanding achievement in 4-H club work.



TRAGEDY IN THE HOG YARD



● No wonder Oswald is blue. Here's what he is missing: Smoked and Cooked Meat Wrappers...Sliced Bacon Wrappers and Hotel Packs...Fresh Loins and Butts Wrappers...Lard Carton Liners...Box Liners...Ham Jackets...Barrel Liners...Wrappers for the Freezer...Inner Cooked Meat Wrappers...Spiced Ham Can Liners.

★ **KVP** ★
PAPERS for PACKERS

KALAMAZOO VEGETABLE PARCHMENT COMPANY
PARCHMENT · KALAMAZOO · MICHIGAN

PROCESSING Methods

Smoked Meat Shrinkage Cost

WHETHER the packer smokes his hams and shoulders in a conventional or an air-conditioned smokehouse, or whether he is turning out new process or regular S. P. product, he does incur the cost of shrinkage—large or small.

Pork costs less than it did a few years ago, but shrinkage costs are as large proportionately and just as important as ever.

Packers cannot afford to determine costs by guesswork—their margins are too narrow and uncertain. Correct and profitable buying, pricing and selling all depend on accurate cost information.

FIGURING SLOW.—It takes time to sit down with a paper and pencil and figure the shrinkage cost on any given lot of product. However, with the table shown on this page, any meat plant worker, knowing the percentage of

weight lost in converting a lot of S. P. product into smoked pork items, can easily determine the cost of the shrinkage.

The table has been brought up-to-date and includes shrinkage costs for smoking losses as low as 2 per cent. This will make it useful to the processor who is controlling shrink closely in an air-conditioned smokehouse, or who is making new process hams or shoulders. The table may be used in determining shrinkage costs for hams, bacon, picnics, butts or any smoked meat. Balance of table will appear next week.

How To Figure Cost of Shrinkage on Smoked Meats

Amount per cwt. which must be added to cover cost of weight losses in converting sweet pickle (long or short cure) pork products into smoked pork items. The table may be used in figuring the costs for hams, bacon, picnics, butts or any other smoked meat, as will be noted from the explanation.*

Market Price per cwt. of S. P. Product.	Shrinkage														
	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%
\$ 4.00	\$0.08	\$0.12	\$0.17	\$0.21	\$0.26	\$0.30	\$0.35	\$0.40	\$0.44	\$0.49	\$0.55	\$0.60	\$0.65	\$0.71	\$0.76
4.25	.09	.13	.18	.22	.27	.32	.37	.42	.47	.53	.58	.64	.69	.75	.81
4.50	.09	.14	.19	.24	.29	.34	.39	.45	.50	.56	.61	.67	.73	.79	.86
4.75	.10	.15	.20	.25	.30	.36	.41	.47	.53	.59	.65	.71	.77	.84	.90
5.00	.10	.15	.21	.26	.32	.38	.43	.49	.56	.62	.68	.75	.81	.88	.95
5.25	.11	.16	.22	.28	.34	.40	.46	.52	.58	.65	.72	.78	.85	.93	1.00
5.50	.11	.17	.23	.29	.35	.41	.48	.54	.61	.68	.75	.82	.90	.97	1.04
5.75	.12	.18	.24	.30	.37	.43	.50	.57	.64	.71	.78	.86	.94	1.01	1.09
6.00	.12	.19	.25	.32	.38	.45	.52	.59	.67	.74	.82	.90	.98	1.06	1.14
6.25	.13	.19	.26	.33	.40	.47	.54	.62	.70	.77	.85	.93	1.02	1.10	1.19
6.50	.13	.20	.27	.34	.42	.49	.57	.64	.72	.80	.89	.97	1.06	1.15	1.24
6.75	.14	.21	.28	.36	.43	.51	.59	.67	.75	.83	.92	1.01	1.10	1.19	1.29
7.00	.14	.22	.29	.37	.45	.53	.61	.69	.78	.87	.95	1.05	1.14	1.24	1.33
7.25	.15	.22	.30	.38	.46	.55	.63	.72	.81	.90	.99	1.08	1.18	1.28	1.38
7.50	.15	.23	.31	.39	.48	.56	.65	.74	.83	.93	1.02	1.12	1.22	1.32	1.43
7.75	.16	.24	.32	.41	.50	.58	.67	.77	.86	.96	1.06	1.16	1.26	1.37	1.48
8.00	.16	.25	.33	.42	.51	.60	.70	.79	.89	.99	1.09	1.20	1.30	1.41	1.52
8.25	.17	.26	.34	.43	.53	.62	.72	.82	.92	1.02	1.13	1.23	1.34	1.46	1.57
8.50	.17	.26	.35	.45	.54	.64	.74	.84	.95	1.05	1.16	1.27	1.38	1.50	1.62
8.75	.18	.27	.36	.46	.56	.66	.76	.87	.97	1.08	1.19	1.31	1.42	1.54	1.67
9.00	.18	.28	.38	.47	.58	.68	.78	.89	1.00	1.11	1.23	1.35	1.47	1.59	1.71
9.25	.19	.29	.39	.49	.59	.70	.80	.91	1.03	1.14	1.26	1.38	1.51	1.63	1.76
9.50	.19	.29	.40	.50	.61	.72	.83	.94	1.05	1.17	1.30	1.42	1.55	1.68	1.81
9.75	.20	.30	.41	.51	.62	.73	.85	.96	1.08	1.21	1.33	1.46	1.59	1.72	1.86
10.00	.20	.31	.42	.53	.64	.75	.87	.99	1.11	1.24	1.36	1.50	1.63	1.77	1.91
10.25	.21	.32	.43	.54	.65	.77	.89	1.01	1.14	1.27	1.40	1.53	1.67	1.81	1.95
10.50	.21	.32	.44	.55	.67	.79	.91	1.03	1.17	1.30	1.43	1.57	1.71	1.85	2.00
10.75	.22	.33	.45	.57	.69	.81	.93	1.06	1.20	1.33	1.47	1.61	1.75	1.90	2.05
11.00	.22	.34	.46	.58	.70	.83	.96	1.09	1.22	1.36	1.50	1.64	1.79	1.94	2.10
11.25	.23	.35	.47	.59	.72	.85	.98	1.11	1.25	1.39	1.53	1.68	1.83	1.99	2.14
11.50	.23	.36	.48	.61	.73	.87	1.00	1.13	1.28	1.42	1.57	1.72	1.87	2.03	2.19
11.75	.24	.36	.49	.62	.75	.88	1.02	1.16	1.31	1.45	1.60	1.76	1.91	2.07	2.24
12.00	.24	.37	.50	.63	.77	.90	1.04	1.19	1.33	1.48	1.64	1.79	1.95	2.12	2.29
12.25	.25	.38	.51	.64	.78	.92	1.07	1.21	1.36	1.51	1.67	1.83	1.99	2.16	2.33
12.50	.26	.39	.52	.66	.80	.94	1.09	1.24	1.39	1.55	1.71	1.87	2.04	2.21	2.38
12.75	.26	.39	.53	.67	.81	.96	1.11	1.26	1.42	1.58	1.74	1.91	2.08	2.25	2.43
13.00	.27	.40	.54	.68	.83	.98	1.13	1.29	1.44	1.61	1.77	1.94	2.12	2.29	2.48
13.25	.27	.41	.55	.70	.85	1.00	1.15	1.31	1.47	1.64	1.81	1.98	2.16	2.34	2.52
13.50	.28	.42	.56	.71	.86	1.02	1.17	1.34	1.50	1.67	1.84	2.02	2.20	2.38	2.57
13.75	.28	.43	.57	.72	.88	1.04	1.20	1.36	1.53	1.70	1.88	2.06	2.24	2.43	2.62
14.00	.29	.43	.58	.74	.89	1.05	1.22	1.38	1.56	1.73	1.91	2.09	2.28	2.47	2.67
14.25	.29	.44	.59	.75	.91	1.07	1.24	1.41	1.58	1.76	1.94	2.13	2.32	2.52	2.71
14.50	.30	.45	.60	.76	.93	1.09	1.26	1.43	1.61	1.79	1.98	2.17	2.36	2.56	2.76
14.75	.30	.46	.61	.78	.94	1.11	1.28	1.46	1.64	1.82	2.01	2.21	2.40	2.60	2.81
15.00	.31	.46	.63	.79	.96	1.13	1.30	1.48	1.67	1.85	2.05	2.24	2.44	2.65	2.86

*EXPLANATION.—The left-hand column shows market prices per cwt. of S. P. product (hams, picnics, bellies, etc.). Other columns show various percentages of weight loss from shrinkage.

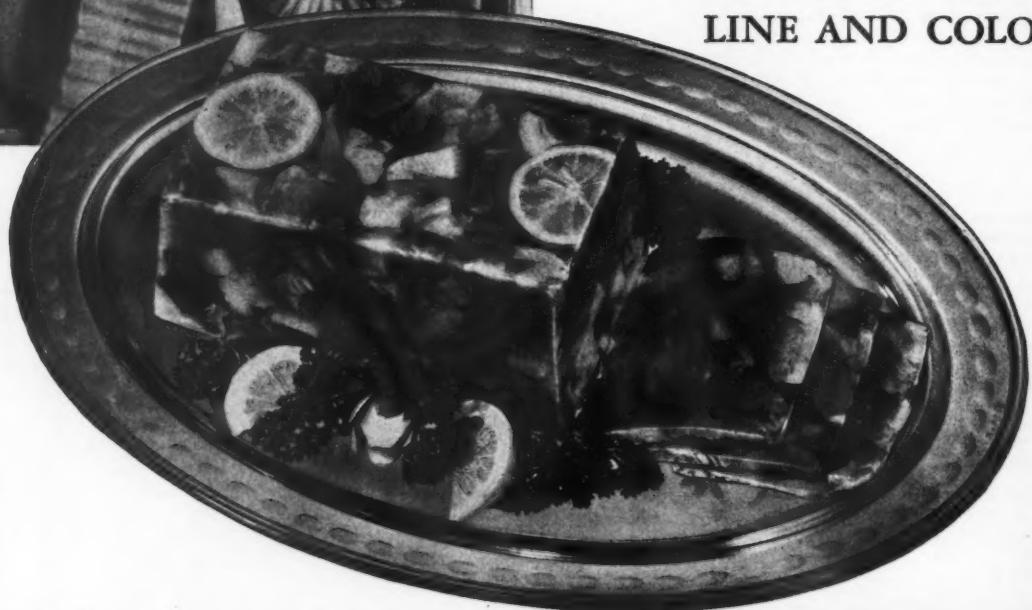
From your tests you know your average shrinkage from S. P. to smoked weight on each of these products. Use the column showing that percentage, and the dollar figure in that column opposite the market price of S. P. product will give you the amount you lose by shrinkage. This should be used in computing cost of the smoked meats.

This is only one cost item. Others to be figured include cost of labor in trucking, unloading, soaking, stringing, hanging, smoking and branding; also supplies, repairs, plant overhead, wrapping, packing, loading, delivery, selling and administrative expense, and profit.



Beauty Revealed

... AND QUALITY
REFLECTED, IN BOTH
LINE AND COLOR



OF COURSE a Tongue has *beauty* and *color*. So has a fine *Souse* or a *Head Cheese*. And these fine qualities are clearly revealed in your jellied meats when Wilson's High Test Pure Food Gelatine is used—just as a flawless mirror reveals the charm of a lovely woman.

Wilson's "Spring Water Clear" Gelatine is a great asset to the sale of Jellied Goods. It has no superior in clarity, firm jelling and freedom from odor. And its high test strength assures best results at lowest cost.

Wilson's Gelatine conforms with all Federal and State Pure Food regulations and carries the endorsement of the Committee on Foods, American Medical Association. Write for free sample and quotations.

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U. S. Yards, Chicago, Ill.



Branches in all
principal cities



CLEAR AS SPRING WATER

The unretouched photograph above shows a convincing comparison of clarity. One glass contains Wilson's High Test, Pure Food Gelatine. The other contains Pure Spring Water.

Even the penetrating eye of a powerful camera lens reveals no difference. Both are clear as crystal and pure as the Lilies of the Valley. As a matter of fact, clearest, purest water is the "clarity standard" used in the processing of Wilson's High Test, Pure Food Gelatine.

WILSON'S High Test
PURE FOOD
GELATINE

Industry Must Educate, Carry on Research and Watch Trends

COMPETITION for the American consumer's food dollar offers a definite challenge to members of the American livestock and meat industry in order that its product—MEAT—is insured the best possible outlet, R. C. Pollock, general manager of the National Live Stock and Meat Board, told directors of the Board at their semi-annual meeting in Chicago this week.

It is necessary at all times to keep fully informed regarding all factors which may have an influence upon the consumption of meat, Mr. Pollock pointed out. Trends in food habits must be watched. Factors which have an influence upon consumer demand must be recognized. Attention must be directed to those groups whose influence is of paramount importance in furthering meat education, he said.

"We have in the United States a population of approximately 130 million persons," stated Mr. Pollock, "whose combined food budgets total something like \$9,500,000,000 annually, and whose expenditures for meat are of vital significance to the livestock and meat industry. Our major production area lies west of the Mississippi river, where 66 per cent of our beef and veal, 52 per cent of our pork, and 77 per cent of our lamb is produced.

"As near as can be ascertained, 21 of



R. C. POLLOCK

the 48 states produce more than enough beef and veal for their own use, 13 states produce more than enough pork for their own needs, and 25 states produce more than their own lamb requirements. Although the area west of the Mississippi is the main source of our meat supplies, the area east of the Mississippi is the major consuming area, 72 per cent of the nation's food expenditures being made in the Eastern area."

In any program of meat promotion, the American homemaker deserves especial consideration, Mr. Pollock said. On every hand she is bombarded by appeals of hundreds of interests bidding for her food dollar. Moreover, she is a much more critical food buyer than the housewife of 25 years ago. She might be called the "dictator" of the livestock and meat industry, because her demands must be met in this age of increasing competition.

Modern Retailing

Retail meat dealers are key men of the livestock and meat industry, since they are the ultimate salesmen of its product—meat. "America's retail meat dealers," the Board manager said, "greet the nation's meat consumers across the counters of 200,000 markets and their meat sales approximate 45,000,000 lbs. daily.

"The status of the retailer has changed greatly in recent years, and he, too, must keep abreast of all that is new in meat cookery and the food value of meat to answer questions of his customers. He must keep pace with consumer demands."

Mr. Pollock stated that there are more than 7,000,000 students in high schools, colleges, and universities. He called attention to the necessity of reaching these students, and teachers as well, with the story of meat.

Meat Facts Wanted

"We know from our experience in close contacts maintained with something like 17,000 teachers, and in our work with hundreds of thousands of students, that they are tremendously interested in the subject of meat. They have been impressed with facts revealed by meat research.

"At the time the Board was organized it was found that many home economics teachers were stressing meat substitutes in their classrooms. Their present interest in meat is another indication of forward strides in the field of meat education."

In any program of meat promotion the challenge of the medical, dental, dietetic and nursing professions must

(Continued on page 48.)

A Big Job for All

THE live-stock and meat industry is a big industry and its task of promoting meat is a big task. We know that meat is an excellent food. We know that it is the food around which good meals are built. We know that based on average servings, meat is a greater source of more essential nutritive elements than any other single food.

But it is not enough to know this—we must take the facts to the nation. It is not the job of any single organization. It involves the co-operation and support of the entire industry and agencies not directly connected with the industry. The success of the task depends on the way we meet our problems—upon the thoroughness with which we carry on.—R. C. Pollock.

Reduce

EXCESS WEIGHT



No Waste! No Surplus! With H & D Shipping Boxes

Take a tip from the Package Engineer. You can save time and money by modernizing your shipping boxes. Case histories in H & D files reveal the importance of weight reduction in shipping box construction. One shipping box after another has come to the Packaging Laboratory for analysis and re-design, and has been made over into a lighter, yet stronger, package. In this thought, there is a suggestion for you.

The Hinde & Dauch Paper Co.

3931 Decatur Street
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Send for FREE Booklet

You'll get plenty of ideas from "Package Engineering." Describes notable successes in field of packaging. Free for asking.

HINDE & DAUCH

SHIPPING BOXES
PROTECT IN TRANSIT

Up and down the MEAT TRAIL

George Jourdan, Chicago Pork Packer, Dies at 83

George Jourdan, president and founder of the Jourdan Packing Co., Chicago, died on December 7 after a short illness.



GEO. JOURDAN

His sons and grandsons entered the business and took charge of operations, but Mr. Jourdan played an important part in the policies of the organization at all times. He is survived by two sons, Louis and William Jourdan, both of whom are officials of the Jourdan Packing Co.; a daughter, Anna Jourdan Wanderer; twelve grandchildren and eight great-grandchildren.

Saddle and Sirloin Club Is Host to Dan Casement

Dan D. Casement, widely known cattle breeder and rancher of Manhattan, Kas., was honored guest last week at a meeting of the Saddle and Sirloin

Club in Chicago, at which his portrait was unveiled and added to the gallery of those who have contributed most to American agriculture. The painting, the work of Joseph Allworthy, was presented to the club by Charles Redd, president of the National Wool Association, and accepted by Charles E. Snyder, club president. Among those who spoke at the dinner were William Allen White, famous editor of Emporia, Kas., C. A. Otis of Cleveland and Alan F. Wilson of Chicago.

Hormel Employees Receive Joint Earnings Payments

The 3,434 employees of Geo. A. Hormel & Co. at the Austin, Minn., plant have received joint earnings checks for the year equal to slightly more than one and one-half times their regular weekly pay, Jay C. Hormel, president of the company, recently announced. Checks were distributed under the profit-sharing plan now operating.

Company employees received \$248,000 on November 4 as bonuses for labor and production above department budgets under the company's straight-time plan, which guarantees employees a full weekly wage for 52 weeks of the year and eliminates payless weeks.

New Beef Department Opened by Richter's

Richter's Food Products, Inc., Chicago sausage specialists, have doubled their cooler capacity and are going extensively into the fresh beef business, wholesaling top grade, federally in-

spected carcass beef in addition to the small miscellaneous beef cuts handled previously. Fancy Wisconsin milk-fed calves and choice Western lambs are also now available from the company, according to A. W. Paulin, president.

Manager of the new department is Ed Steinmeyer, a veteran of more than 35 years in the beef business. The new department, catering to the general retail trade, is being operated in conjunction with the hotel and restaurant department. It was inspected recently by 350 meat dealers, many of whom placed orders upon observing product being handled. The company does no slaughtering.

Chicago News of Today

Samuel Salter, Chicago packing executive who had served in the stockyards for 37 years, died on December 3. Mr. Salter worked there first as purchasing agent for the Union Stock Yards & Transit Co. and later as superintendent of the United States Cold Storage & Ice Co.

W. F. Schluderberg, president, William Schluderberg-T. J. Kurde Co., Baltimore; Herbert J. Madden, vice president, East Tennessee Packing Co., Knoxville, Tenn.; and W. F. Price, who retired at the end of 1938 as vice president and general manager of the Jacob Dold Packing Co., Buffalo, N. Y., were among the packer luminaries in Chicago for the International and other activities this week.

Sumner B. Eshelman, sales manager, H. H. Keim Company, Ltd., Nampa, Idaho, was in Chicago this week and visited the offices of THE NATIONAL PROVISIONER.

President A. C. Hofmann, Hofmann Packing Co., Inc., Syracuse, N. Y., attended the International Live Stock Exposition this week while in Chicago on business.

Julius Lipton, Chicago manager, Afral Corporation, made a hurried trip to New York this week to attend the funeral services of Frank F. Kasten, president of the company, at Garden City.

Irving Blumenthal, president-treasurer; W. J. Wilson, head of the lamb

WILSON'S SIX-HORSE TEAM

This famous sextette of Clydesdale horses has been exhibited by Wilson & Co. all over the United States and participated this week in each of the horse shows during the International Live Stock Exposition at Chicago. Frank Housley, who holds the reins, is reputed to be the world's champion six-horse team driver. He has handled the Wilson team for 20 years and his duties have included trips to Scotland to pick out new members of the famous team from time to time.



department; and Grover C. Morgan, cattle buyer, United Dressed Beef Co., New York, spent the week in Chicago and attended the International.

Second annual Employees' Day at the Chicago plant of Swift & Company was held on Sunday, December 3. Hundreds of visitors were shown a preview of the displays set up for the International Live Stock Exposition and a series of interesting exhibits explaining the preparation of Swift products. Entertainment was also provided.

Frank A. Benson, president, New York Butchers Dressed Meat Company, New York, attended the International.

Laurance H. Armour, president, American National Bank & Trust Co. and a director of Armour and Company, has been elected to the board of directors of Automatic Canteen Co. of America.

The Chicago Rotary Club featured a demonstration of 4-H Boys and Girls Club work at the regular Tuesday meeting this week, under the direction of G. L. Noble, general manager of the National Committee on Boys and Girls Club Work and a Chicago Rotarian, assisted by H. M. Jones, state club leader of South Dakota and a member of the Brookings, S. Dak., Rotary club. The young people were in Chicago to attend the National 4-H Club Congress, held in conjunction with the International Live Stock Exposition.

Another visitor, in a week which brought a number of packer personalities to Chicago for the International and allied activities, was L. Ed Liebmann, president, Liebmann Packing Co., Green Bay, Wis.

A. E. Stabley, Dallastown, Pa., whose company produces bologna and also handles fresh meat at wholesale and retail, came to Chicago this week for the International and attended to some business while in the city.

New York News Notes

Frank F. Kasten, president, Afral Corporation, died unexpectedly at his home in Manhasset, Long Island, on December 2. Mr. Kasten would have been 46 years of age later this month. Business operations of the company will be carried on without interruption under the direction of Mrs. Anne Marie Kasten, widow of the deceased, who has served as secretary of the corporation since its founding.

Charles G. Eden, vice president and director of H. C. Bohack Co., Inc., operators of grocery and meat stores in Brooklyn and Long Island, died on December 5 in Long Island College Hospital after an extended illness. Mr. Eden was 65 years old.

Employees of the Swift & Company Jersey City plant tendered a testimonial and farewell dinner to H. M. Stevens, purchasing agent, at the Carteret club, Jersey City, on December 7. Mr. Stevens, who recently completed 40 years of continuous service with Swift & Company, retired on December 1.

ACTIVE IN CASING TRADE

Three of the trigger men of the Salzman Casing Co. talk over the outlook for animal casings and the prospects for a big sausage business. In the center, sales manager Sol Morton weighs what Tony Pick (left), Southern representative of the company is telling Herbert H. Pohl, who covers Central territory, about the general meat trade situation.



The eleventh annual dinner-dance of the Hygrade Employees Association was held at the Waldorf-Astoria hotel on December 2. More than 800 employees and their families and friends attended. The committee in charge, in addition to Nicholas Meyer, chairman, included K. R. Woodruff; Joseph Bernstein, and Louis Rosin. Among officers of the Hygrade Food Products Corp. attending were president Samuel Slotkin; vice president Hugo Slotkin; treasurer F. L. Haveron, and secretary K. R. Woodruff.

ably be completed in about two months. Cost of the modernization is estimated at between \$10,000 and \$15,000.

In order to meet the demands of increased business, Turvey Packing Co., Blackwell, Okla., plans to construct an addition to the plant soon. George Turvey is general manager of the company.

Carl Roessler, sausage manufacturer of New Haven, Conn., will celebrate the opening of his new plant on December 10 by conducting guests through the building.

Fire at the Quay Z. Greaser packing plant, Lansdale, Pa., recently destroyed three buildings, two motor trucks and several pieces of equipment. The loss was partly covered by insurance.

E. C. Keefe, president, Keefe Packing Co., Arkansas City, Kas., has been surveying the livestock supply and other factors with a view of locating a branch plant in Corpus Christi, Tex.

A new meat plant specializing in the production of sausage has been opened in Clay, Ky., by W. H. Dunagan.

Countrywide News Notes

W. H. Gaddis, superintendent, Bantfield Bros. Packing Co., Enid, Okla., plans to visit old friends in the Northwest during a vacation trip there. He is making the trip by automobile.

Location of the abattoir and offices of Cross Bros., Philadelphia, has been changed to 3600 N. Front st. in that city. Samuel Cross is president and owner of the company.

Max Hoffman, member of the sausage manufacturing firm of Weigler & Hoffman, Manchester, N. H., died recently at his home. Mr. Hoffman, active in business and fraternal circles, was 45 years of age.

Fire, believed to have originated in a centrally located smokehouse, destroyed the processing and shipping departments of the Butler Packing Co., Butler, Pa., recently. The estimated loss of \$75,000 was partly covered by insurance. H. F. Daum is manager of the plant.

At a breakfast attended by members of the Houston, Tex., chamber of commerce, G. L. Childress, general manager, Houston Packing Co., reviewed the hog-raising prospects of the Houston area, stating that 500,000 hogs should be raised within a radius of 100 miles. Mr. Childress was host to the chamber officials in the plant cafeteria, and following breakfast the guests were taken for a tour of the plant.

Winchester Packing Co., Hutchinson, Kas., is engaged in an extensive plant remodeling program which will prob-

In the News 40 Years Ago

(From The National Provisioner, December 9, 1898.)

We take the following excerpts from the annual report of Secretary of Agriculture James Wilson for the fiscal year ended June 30: "The work of the Bureau of Animal Industry increases rapidly. Meat inspection was conducted last year at 138 abattoirs in 41 cities. The ante-mortem inspections were 53,223,176, while the number in 1892 was only 3,809,459. The record for 1898 shows that our agricultural exports were decidedly the largest in the history of the country. Their total value reached \$858,507,942. Among the exports that showed the largest gains were bacon, lard, hams, cottonseed oil and oil cake. It was found that there was a falling off in agricultural imports, the total value being \$314,291,769, which was \$86,579,672, or 22 per cent less than in 1897-98."

The English government, since the Boer war began, has purchased of American packers 300,000 cases of canned meats, or 70,000,000 cans.

(Continued on page 32.)

Save on cold room operations by installing

CORK INSULATION



THE CURING COOLER (above) and the Boiled Ham Chill Cooler (left) hold low temperatures economically—thanks to Cork Insulation. Walls and columns, ceilings and beams are covered with 4" Armstrong's Corkboard. All photos in new plant of Albert F. Goetze, Baltimore.



Armstrong's CORKBOARD assures economical refrigeration in the new Albert F. Goetze Plant, Baltimore.

THIS modern food plant is one of many throughout the country that use Armstrong's Corkboard to hold low temperatures safely and economically. Because of its dependability, efficiency, and permanency, corkboard has been standard low temperature insulation for more than thirty years.

Armstrong's Corkboard is efficient because it presents an effective barrier to the passage of heat. Thus, it conserves costly refrigeration, and helps to control temperatures within desired ranges. Corkboard keeps its efficiency even under severe conditions as it is highly resistant to moisture. In addition, this insulation is fire-resistant and long

lasting. Some installations made more than thirty years ago are still giving efficient service. This long service means true economy.

Whether you're planning new construction, or modernizing, choose Armstrong's Corkboard for reliable, efficient insulation. Armstrong's Contract Department is ready to give you expert advice on any insulation problems. Experienced engineers and skilled workmen are available to assure proper corkboard installation for maximum operating economy. Write today for free literature to Armstrong Cork Co., Building Materials Division, 952 Concord St., Lancaster, Pa.



LASTING INSULATING EFFICIENCY was assured when Armstrong's Corkboard was installed in this Beef Cooler. Corkboard is structurally strong and rigid, moisture-resistant, and fire-resistant. Armstrong's Cork Covering provides the same efficient insulation for cold lines and fittings. Three thicknesses of this insulation are available to meet any low temperature requirement.

Armstrong's CORKBOARD INSULATION

REFRIGERATION and Air Conditioning

MEAT PLANT REFRIGERATION

A Complete Course for
Executives and Workers
Prepared by—

The National Provisioner

LESSON 45

Charts for Solving Ammonia Problems

THE discussion of use of charts for determining ammonia properties and solving heat transfer problems, which was started with Lesson 43 and continued in Lesson 44, is concluded in this installment of the course.

Chart No. 8 on this page gives value of entropy of vapor or liquid during a process of expansion or compression when there is no loss of heat during either of these operations. With it the effect of compression of ammonia gas and the resulting effect of superheating can be evaluated. Superheat does not affect pressure as indicated by the gauge. The gas contains more heat units than in a saturated state. Use of this chart will be illustrated by a problem.

Having determined entropy, the result is used with chart No. 9 to determine total heat content of the gas as it leaves compressor. Compressor adds heat of mechanical compression or work. It is assumed that suction vapor is saturated, that is, that it contains no superheat.

Use of Charts No. 10 and 11

Chart No. 10 is used to determine temperature of compressed or superheated gas as it leaves compressor. It can be used to check actual discharge of gas under operating conditions.

Chart No. 11 is used for this same purpose. It is given here because it does not include in its visual make-up the term entropy, which may be confusing to a student beginning the course. It is particularly useful since, knowing suction and discharge pressures as read on engine room gauges, the theoretical discharge gas temperature can be compared with the actual as read on the thermometer in the discharge line of the compressor.

If discharge valves are leaky, if suction valves are leaky, if valves are not

seating properly, or, in starting, if bypass valve is not closed tightly or leaks, temperatures as shown by discharge thermometer will be considerably higher than those given on this chart. Consequently, a comparison of operating temperatures with those given here serves as a guide.

If actual discharge temperature is much lower, then liquid is being entrained in suction gas or injectors are being used too liberally.

Chart No. 12 gives volume of superheated gas in cubic feet per pound. Charts included in this lesson deal with superheated gas, whereas those in previous lessons dealt entirely with saturated gas, in which the temperature corresponds to the pressure.

Use of the charts will now be illus-

trated in a problem as given in the U. S. Bureau of Standards circular "Properties of Ammonia." This is a case solution and applicable to all ammonia problems. Solution involves the use of charts in Lessons 43 and 44 as well as 45.

PROBLEM

Saturated ammonia vapor at a temperature of 5 degs. F. is delivered to a compressor, compressed to a pressure corresponding to saturation at 86 degs. F., cooled and condensed to a liquid state at this pressure, expanded through a throttle valve to the pressure at the compressor inlet and returned to compressor. The cycle is considered ideal. Compressor has no clearance, no pressure drops occur in either liquid or suc-

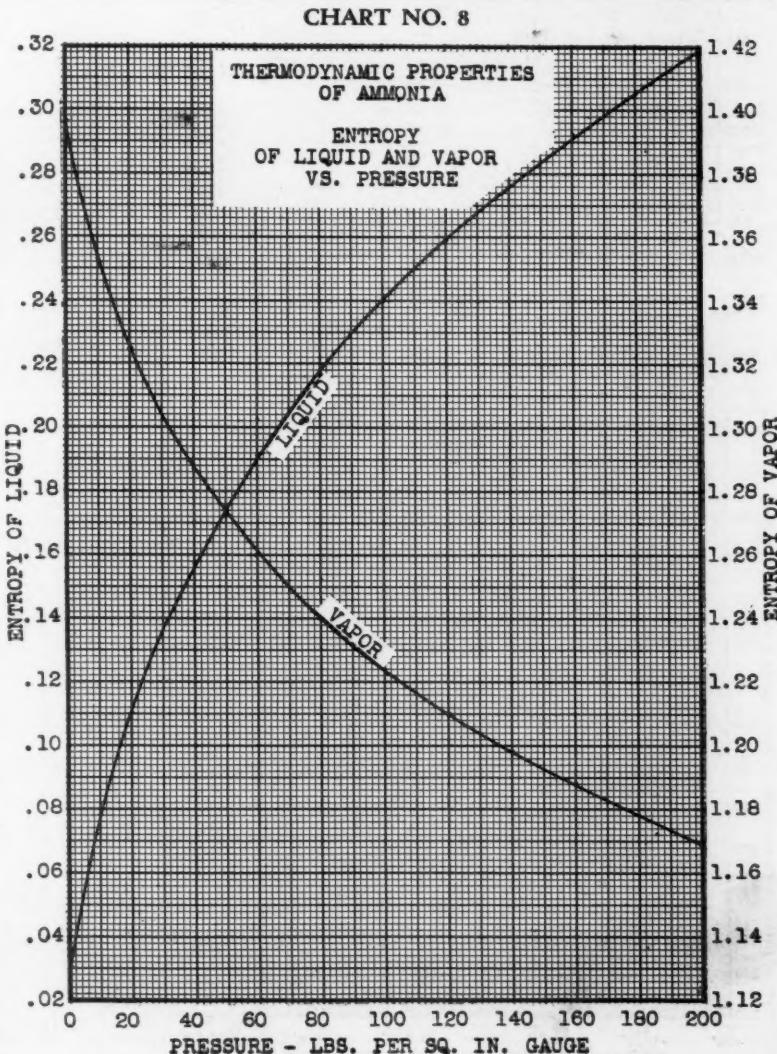


CHART NO. 9

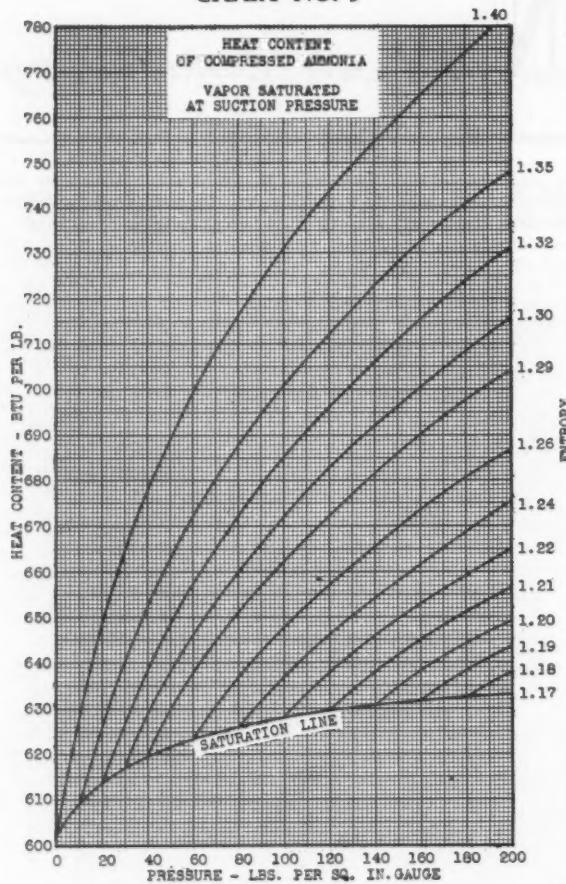


CHART NO. 10

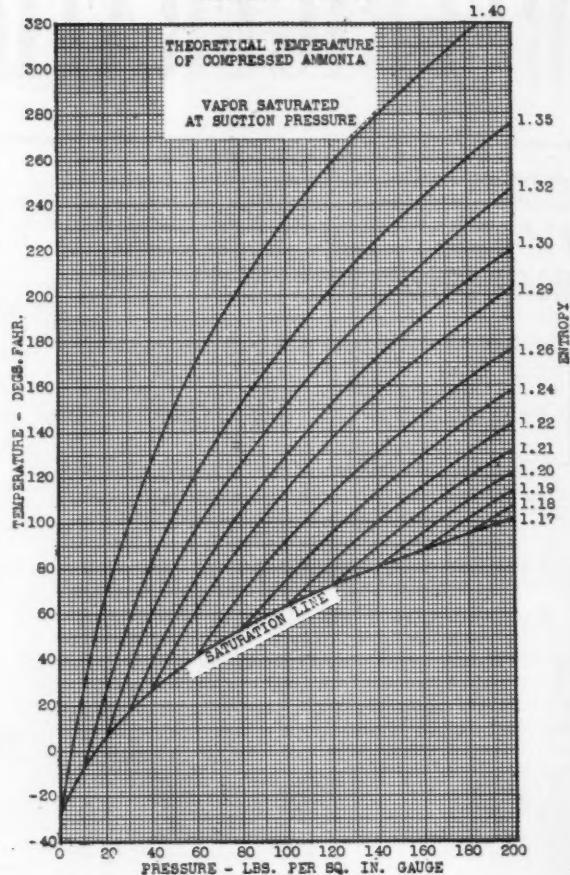


CHART NO. 11

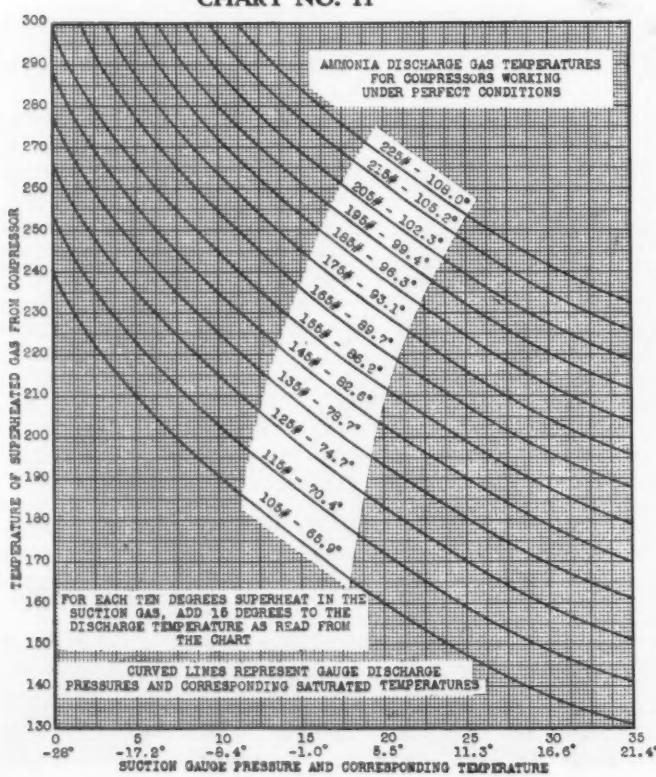
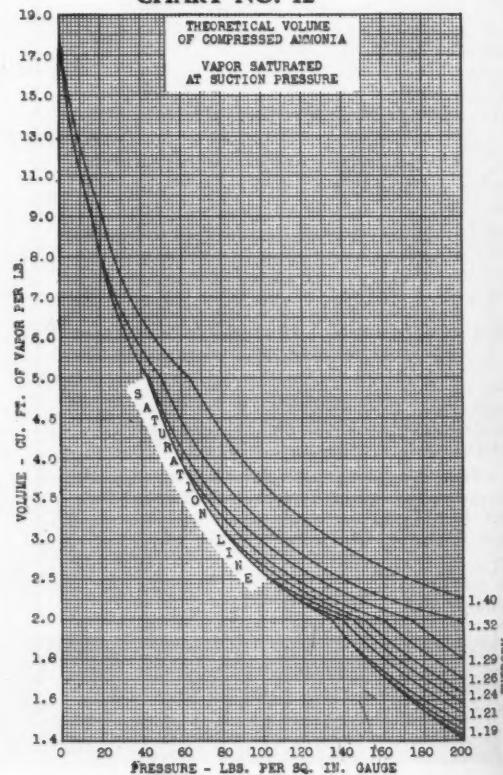


CHART NO. 12



tion lines to the compressor and only at expansion valve. No heat is lost except in condenser and evaporator. It is required to find:

1.—Pressure at compressor inlet.

Use Chart No. 1. Enter left hand column at temperature of 5 degs. F. and, at intersection of temperature curve, read on bottom scale, 20 lbs. per sq. in.

2.—Specific volume at compressor inlet.

Again use Chart No. 1. Enter chart at bottom at 20 lbs. gauge pressure, follow line up to intersection with volume curve and read 8.1 cu. ft.

3.—Pressure at compressor outlet; that is, pressure in condenser.

Use Chart No. 1. Enter left side of chart at temperature of 86 degs., follow line horizontally to temperature curve and then vertically to the base—154 lbs. gauge.

4.—Temperature of superheated vapor at compressor outlet.

Use Chart No. 8. Enter at base of chart with 20 lbs. suction pressure and rise vertically to intersection of vapor line, then go horizontally to right. Entropy of vapor is 1.325. This is the line of compression of the vapor.

Chart No. 10 may also be used, but Chart No. 8 is slightly more accurate in determining exact entropy values. When using Chart No. 10, enter at base at 20 lbs. suction and, from saturation pressure line, follow the line of entropy marked 1.325 (between lines marked 1.32 and 1.35) along the line of compression to head pressure of 154 lbs. gauge and read at base of the chart. At this intersection, follow horizontally to the left and read 210 degs. F.

Volume of Vapor

5.—Specific volume of superheated vapor at compressor outlet. Use Chart No. 12. Enter at 154 lbs. condenser pressure, follow vertically to intersection of entropy line 1.325 (which lies between 1.32 and 1.40) and read on the left-hand scale 2.35 cu. ft. of vapor per pound.

6.—Work done by compressor per pound of ammonia circulated. This is increase in heat content between compressor inlet and outlet.

Chart No. 9 gives heat content of compressed ammonia. Enter base at 154 lbs. gauge pressure—discharge pressure of gas—and follow line vertically until it intersects entropy line of 1.325. Then read horizontally to right—713 B.t.u.

Chart No. 2 gives heat content of saturated suction gas at 20 lbs. gauge pressure as 613.5 B.t.u. 713 B.t.u. minus 613.5 B.t.u.=99.5 B.t.u., the work done by the compressor per pound of ammonia circulated.

7.—Heat removed by cooling water per pound of ammonia.

Heat in gas discharged from compressor to condenser has been determined as 713 B.t.u. per pound of ammonia circulated. From Chart No. 2, liquid ammonia at a temperature of 86 degs. F.,

or 154 lbs. gauge pressure, contains 138 B.t.u. Difference between the two, or 575 B.t.u., is amount of heat removed to condensers per pound of ammonia circulated.

8.—Heat absorbed by ammonia in the evaporator, or refrigerating effect per pound of ammonia.

Chart No. 6 gives refrigerating effect. Enter left side of chart at 86 degs. temperature of liquid, move horizontally to right until the suction pressure line of 20 lbs. is intersected; drop down from this point to base, where 474 B.t.u. per pound is read.

9.—Quality of mixture after passing through expansion valve.

Chart No. 5 gives the quality or flash gas. Enter base of chart at 20 lbs. suction pressure and follow upward to 86 degs. liquid. This line is between the 80- and 90-deg. lines. On the left hand scale read 16 per cent flash gas.

10.—Number of pounds of ammonia circulated per minute for a standard commercial ton of refrigeration.

Use Chart No. 3. Enter at bottom at 20 lbs. suction pressure and follow vertically until line of 84-deg. liquid is intersected, then horizontally to the right. The answer is .422 lbs. of ammonia per minute per ton of refrigeration.

(Continued on page 38.)

Yes Sir!

VILTER PAKICE

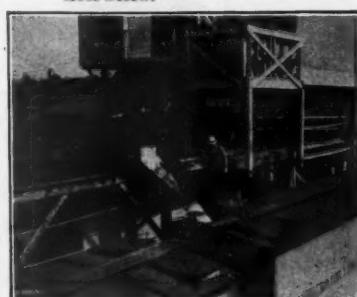
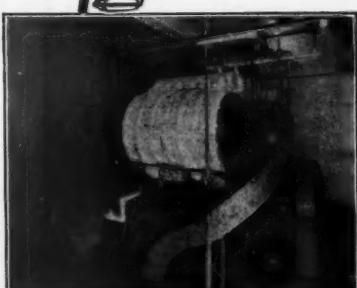
Saves Money in Car Icing, Too!

Vilter PAKICE, in Briquette form, has been saving money for Meat Packers since 1932, through convenient, effective, and economical Car Icing. PAKICE Briquettes are made right on the job—near your carloading platform—and shuted into your car bunkers.

Vilter PAKICE Briquettes are made under a tremendous pressure of 17 tons. They provide better refrigeration at a cost lower than other forms of ice. Their scientifically rounded contour (Ovoid Shape), providing a minimum of surface contact, prevents the surfaces from freezing together. Eliminates air tunneling. Because of their large melting surface, Briquettes produce colder temperatures more quickly. Briquettes are just as hard as Can Ice—with the same or lower moisture content.

Vilter Briqueting Machinery is available with PAKICE Units from 15 tons to 30 tons capacity. Vilter PAKICE Equipment is made for every size plant—in daily capacities of $\frac{1}{2}$, 1, $2\frac{1}{2}$, 5, and up to 30 tons in 5-ton increments. Write for YOUR Story of Savings in modern food protection.

↑ Vilter 30 ton PAKICE Machine, showing Briquette Attachment and chute to floor below.



← Filling Car Bunkers with Vilter PAKICE Briquettes. Briquettes are made in unit at top, spouted from storage bin into platform truck, and shuted directly into car bunkers. Time and labor are minimized.

★CLIP THE COUPON FOR SAVINGS ON PAKICE

Sausage Makers!

Use Vilter Crystallform PAKICE in Grinder or Chopper. Contains no large chunks to dull knives—or melt and sour the meat.



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Offices In Principal Cities

The Vilter Mfg. Company
2118 South First Street
Milwaukee, Wisconsin

Send us more details on Savings with Vilter PAKICE and Briquettes, to fit the following conditions:

Amount of Ice Used:
Car Icing: Daily..... Annually.....
Sausage Making: Daily..... Annually.....
Water Temperature..... Cost.....
Power: Volts..... Phase..... Cycle.....
Costs per K.W.H.....
Present Cost of Ice per ton:.....
Name.....
Address.....
City..... State.....

PRAGUE POWDER

Nos. 2054623, 2054624, 2054625, 2054626

We advise the use of PRAGUE POWDER for all ham and bacon cure.

See Prague Powder booklet. It is mild, sweet and colorful.

We want quick action and a dominant flavor.

To satisfy this need we make PRAGUE POWDER, as a Pre-prepared dry pickle, made in a *fusion heat*, and may be called a third element, which when added to a new pickle makes effective the "curing nitrates" quickly.

This ham has been artery pumped, adding 10% Prague Pickle.



All artery pumped hams can be finished in "dry cure" like "Sugar Cured Bacon." A "Rich, Ripe Flavor" ham is desirable from the consumer's standpoint. The public requires a high color, a "ripe flavor" and a juicy ham.

We are meat curing specialists.

We have many years of practical experience in packing-house problems.

We have ten years of artery pumping practice, making the "Ready to Eat" ham.

We have trained men in every department of packing-house practice.

We have here the most effective working personnel and laboratory equipment in this or any other country.

We have here evidence of practical help to the meat industry, making many mechanical improvements.

We offer freely our help to any packer seeking information or assistance, looking for improved operative practice or new products.

We are making PRAGUE POWDER and PRAGUE POWDER Pickle available in every part of the world, making the "Safe Fast Cure" possible.

We build the Big Boy Artery Pickle Pump line, costing from \$75.00 for the No. 7 to \$200.00 for the No. 4 and \$320.00 for the No. 3, and other sizes to suit your need.

We build a motor-driven Stringing Machine and many other mechanical helps to the meat industry. Stainless steel needles for all purposes.

We are ready to extend our cooperative hand to any who call. "Let us reason together."

THE GRIFFITH LABORATORIES

1415-31 W. 37th St., Chicago, Ill.

Eastern Factory: 35 Eighth St., Passaic, N. J.

Canadian Factory and Offices:

1 Industrial St., Leaside, Toronto 12, Ontario

Bouillon Cubes



For complete protection and maximum consumer convenience in usage, nothing compares with a metal container.

Yearly, Continental makes millions of these packages in a variety of sizes—all attractively lithographed in permanent colors which maintain their brilliance long after purchase.

A representative will be glad to discuss your requirements any time.

C

CONTINENTAL CAN COMPANY

New York • Chicago • San Francisco • Montreal • Toronto • Havana

Pork and Lard Stronger; Demand Shows Improvement

Lard futures advance $\frac{1}{4}$ c on buying and covering despite realizing and packer sales; cash trade good—Fresh pork prices up—Hog prices average above week ago.

PROVISION and lard markets were in a generally better position during the week just ended than in the preceding period. Green meats firmed up and there was a big carlot movement in bellies, hams and picnics and to a lesser extent in dry salt meats. Announcement was made of a contract between the Canadian government and the United Kingdom by which about 5,000,000 lbs. of Wiltshire sides and other pork cuts would be shipped from Canada weekly until October, 1940, and there were some indications of a strengthening of factors underlying the lard market. Hog runs increased and were much higher than a week, a year and two years ago, but prices showed little change.

LARD

Lard prices advanced sharply Thursday on general commission house buying and strength in surrounding markets. The market was able to maintain its advance in the face of realizing and packer sales. Cash trade was fair throughout the week. Cash lard was quoted on Thursday's close at 6.27 $\frac{1}{2}$; loose, 5.77 $\frac{1}{2}$ nominal; leaf, 5.75 nominal, and neutral, 7.75 nominal. This was 12 $\frac{1}{2}$ @25 over a week earlier.

Lard futures at Chicago, moved up a full $\frac{1}{4}$ c per pound during the week on buying and covering stimulated by improvement in cottonseed oil and higher grain and other commodity markets.

Indications of very satisfactory domestic cash trade in lard, with some improvement in demand for meats, and a belief that there is more export business in lard than is reported, aided the rally. However, packer hedge selling was rather persistent and appeared on each bulge.

At New York, demand was fairly good and the market was a trifle steadier. Prime western was quoted at 6.60@6.70c; middle western, 6.60@6.70c; New York City in tierces, 6 $\frac{1}{2}$ @6 $\frac{1}{4}$ c, tubs, 6 $\frac{1}{2}$ @6 $\frac{1}{4}$ c; refined continent, 6 $\frac{1}{2}$ @7c; South America, 7@7 $\frac{1}{4}$ c; Brazil kegs, 7 $\frac{1}{2}$ @7 $\frac{1}{4}$ c. Shortening in carlots was 9 $\frac{1}{4}$ c and in smaller lots 9 $\frac{1}{2}$ c.

HOGS

There was some weakness in hog prices during the week, attributable to heavy runs, although the general average price of good hogs at Chicago during the four-day period was slightly higher than a week ago. Distributive outlet

on green meats showed considerable improvement and prices strengthened. At Chicago receipts were well above the like period of the previous week, as was the case at all principal markets. Marketings at concentration points and direct to packers at outlying centers also showed considerable increases. Hogs were good and there was little spread in the price of all good butchers. Top price at Chicago on Monday and Thursday matched top of the previous week, although the highest average price of \$5.50, made on the closing day, was 5c under last week. The small percentage of sows in the runs also met with good demand.

CARLOT TRADING

Offerings during this week at Chicago were very tight on all green meats with considerable buying for deferred shipment. Prices were firmer on most products than a week ago. There was a good trade in some averages of skinned hams, particularly the medium and heavy. Carlot movement of hams, both skinned and regular, was large, and there was a big trade in green seedless bellies. Picnics were in good demand with prices late on Thursday considerably stronger. There was a broad movement on light picnics for immediate and deferred shipment, and a steady trade on the 8 and up. The big movement during the period on green seedless bellies resulted in a firm market on this product, with sales toward the close of the period at considerably stronger prices. There appears to be little evidence of any considerable accumulations of product but a disposition to keep storage channels fairly clear in view of prospects for heavy hog runs for some time to come.

DRY SALT MEATS

Dry salt bellies were firm this week with 20/25 clear bellies closing the period at 7c, slightly under a week ago.

(Continued on page 28.)

OCTOBER MEAT CONSUMPTION

Federally inspected meats available for consumption in October, 1939:

	Total Consumption, lbs.	Per capita, lbs.
BEEF AND VEAL.		
October, 1939	494,000,000	3.76
October, 1938	480,000,000	3.68
PORK (INC. LARD).		
October, 1939	614,000,000	4.67
October, 1938	554,000,000	4.25
LAMB AND MUTTON.		
October, 1939	62,000,000	.47
October, 1938	63,000,000	.48
TOTAL.		
October, 1939	1,170,000,000	8.90
October, 1938	1,067,000,000	8.41
LARD.		
October, 1939	94,000,000	.72
October, 1938	91,000,000	.70

FSCC Lard and D. S. Meat Specifications

SPECIFICATIONS covering the purchase of lard and dry salt meats by the Federal Surplus Commodities Corporation for relief use appear to have been mailed to packers operating under federal inspection by the chief of the purchase and distribution division of the corporation. There will be no public opening of the offers, but they will be opened and tabulated as received.

Some packers receiving the specifications had questions regarding product and containers and these have been clarified in conferences between A. W. Gilliam, Washington representative of the Institute of American Meat Packers, and the FSCC. One question was as to the weight range of fat backs, the provision being that "each piece of fat back will be cut to weigh after curing not more than 8 lbs. or less than 4 lbs." The Institute is advised that any weight of fat back can be used in making these pieces.

Another question related to type of lard containers. Specifications provided for three containers—110-lb. drums, 55-lb. wooden tubs of standard commercial ash or oak wood, and 55-lb. fiber containers equal to the Shep-Roid fiber container.

Types of Containers

Since none of these containers is used by the trade generally, the FSCC was asked whether offers could be submitted on other types of lard containers, provided they are approximately the specified size and conform to regular commercial practice. The FSCC insists on the 110-lb. drums but offers may be submitted on 55-lb. new butter tubs instead of the 55-lb. wooden tubs. The corporation does not want offers submitted for small packages.

Payment for product will be made as soon as practicable after a complete and correct claim is submitted, the specifications provide. However, it was stated that payment will be made within 14 days through the New York, Chicago or San Francisco field offices of the FSCC.

Offers on these specifications must be received by the FSCC not later than 4 p. m., Eastern standard time, December 11, 1939. These may quote deliveries during the period beginning Dec. 26, 1939, and ending March 19, 1940. The offer of sale contract should be submitted in triplicate and those packers receiving contracts will be required to furnish a performance bond.

LARD AND GREASE EXPORTS

Exports of lard from New York City, week of December 2, 1939, totaled 627,630 lbs.; greases, 52,200 lbs.

Pork and Lard Markets

(Continued from page 27.)

The 30/35 and heavier were very firm on a price range of 6½c, 6¾c for the 35/40 and 6c for the 40/50. Chicago packers appear to be sold up closely on most dry salt meats. Practically all averages of fat backs showed good movement at prices ranging from 4¾c for the 6/8 backs up to 5¾c for 20/25 averages. Improvement in lard prices helped the situation in light backs, as prices have been below tank value, and government buying of dry salt meats offered some strength to all averages. Movement of green rough jowls during the week was large. There was some buying of all dry salt cuts for deferred shipment.

SAUSAGE MATERIALS

Market on fresh pork trimmings was stronger this week with closing prices of 5½@6c, or up ¼@½c from a week earlier. Special lean trimmings were up ¼c at 11½c and extra lean were up ¼c at 12¾c. Good demand was a strong factor and the slight strengthening in prices of pork cuts was reflected in the sausage materials market. There was some freezing of surplus stock of both pork and beef during the period.

BARRELED PORK

Market on barreled pork was rather quiet with some sales at quoted prices on a level with a week ago. There was slight weakness during the period, but fair recovery in the latter part. Prices

on clear fat back pork ranged from \$17.00 for the 30/40 to \$11.00 for the 100/125. At New York, demand was fair but prices were inclined to weakness. Mess was quoted at \$18.75 and family at \$17.75 per barrel.

FRESH PORK

Demand was good for fresh pork cuts at Chicago this week and prices were stronger. Loins were fairly well cleaned up last weekend and lighter cutting early this week was a strengthening factor. Demand was sufficiently strong to absorb most of current supplies, although some freezing took place. Somewhat smaller hog runs helped the fresh pork market. Light and medium averages of loins closed the four days of this week 1@1½c higher than last week, and heavier weights were ½@1c higher. Boneless loins at 23c were 2c up from last week. Boston and boneless butts showed similar increases.

(See page 37 for later markets.)

LIVERPOOL PROVISION PRICES

Liverpool prices for the week ended November 24:

	Nov. 24, 1939. per cwt.	Nov. 17, 1939. per cwt.	Nov. 25, 1939. per cwt.
American green bellies...	\$12.92	\$12.92	\$15.28
Danish Wiltshire sides...	20.64	20.64	17.80
Canadian green sides...	17.95	17.95	15.85
American short cut green hams	21.54	21.94	18.98
American refined lard...	7.63	7.63	9.00

Hog Cut-Out Results

HOG costs were slightly higher this week as were product values, although heavier averages of green meats did not show quite as much improvement as did light and medium averages. Cut-out results, however, showed little change over a week ago and hogs continue to be bought close to the value of products they produce.

Receipts increased during the week and although weather conditions in large consuming sections were mild, demand improved for most products sold green and prices firmed up considerably over a week ago. This was particularly true of loins and butts, and green bellies, picnics and skinned hams, particularly, contributed to the generally better situation in the product market.

All good and choice hogs at Chicago sold within fairly narrow limits this week, top prices being paid through most of the four-day period for all good butchers weighing between 160 and 220 lbs. Good 170- to 190-lb. kinds were in a strong position during most sessions. The sow run was light and met good outlet.

At 11 markets receipts totaled 399,000 head during the four-day period or 58,000 more than a week ago, 142,000 more than a year ago and 101,000 more than two years ago.

The test here shown is worked out on the basis of quality hogs of weights used, with typical costs and credits.

HOW SHORT FORM HOG CUTTING TEST RESULTS ARE FIGURED

(Hog prices and product values based on THE NATIONAL PROVISIONER DAILY MARKET SERVICE, cutting percentages taken from actual tests in Chicago plants.)

Per Cent live wt.	Price per lb.	Value per cwt. alive	Per Cent live wt.	Price per lb.	Value per cwt. alive	Per Cent live wt.	Price per lb.	Value per cwt. alive	
<hr/>									
180-220 lbs.			220-240 lbs.			270-300 lbs.			
Regular hams	14.00	11.4	\$ 1.60	13.70	11.3	\$ 1.55	13.50	11.2	\$ 1.51
Picnics	5.60	8.5	.48	5.40	8.4	.45	5.10	8.3	.42
Boston butts	4.00	9.6	.38	4.00	9.4	.38	4.00	9.2	.37
Loins (blade in)	9.80	11.2	1.10	9.60	10.9	1.05	9.10	10.5	.96
Bellies, S. P.	11.00	9.4	1.03	9.70	9.3	.90	3.10	7.2	.22
Bellies, D. S. ....	..	..	..	2.00	6.2	.12	9.90	6.0	.59
Fat backs	1.00	3.3	.03	3.00	3.5	.11	4.50	3.9	.18
Plates and jowls.....	2.50	3.6	.09	3.00	3.6	.11	3.30	3.6	.12
Raw leaf	2.10	5.3	.11	2.20	5.3	.12	2.10	5.3	.11
P. S. lard, rend, wt.	12.40	5.6	.69	11.00	5.6	.62	10.20	5.6	.57
Spareribs	1.60	8.1	.13	1.60	8.0	.13	1.50	7.9	.12
Trimmings	3.00	5.6	.17	2.80	5.6	.16	2.70	5.6	.15
Feet, tails, neckbones.....	2.00	....	.06	2.00	....	.06	2.00	....	.06
Offal and misc. ....	..	..	.24	....	....	.24	....	....	.24
TOTAL YIELD AND VALUE... 69.00			\$ 6.11	70.00		\$ 6.00	71.00		\$ 5.62
Cost of hogs per cwt.		\$ 5.61			\$ 5.67			\$ 5.36	
Condemnation loss .....		.03			.03			.03	
Handling and overhead.....		.51			.44			.36	
TOTAL COST PER CWT. ALIVE		\$ 6.15			\$ 6.14			\$ 5.75	
TOTAL VALUE		6.11			6.00			5.62	
Loss per cwt. ....		.04			.14			.13	
Loss per hog.....		.08			.32			.37	

WEEK'S TRADING IN LARD

Friday, Dec. 1.—Volume of sales: Dec., 88; Jan., 21; Mar., 6; May, 62; July, 8; total, 185 sales.

Open interest: Dec., 32; Jan., 362; Mar., 99; May, 515; July, 63; total, 1071 lots.

Saturday, Dec. 2.—Volume of sales: Dec., 16; Jan., 11; Mar., 10; May, 21; July, 6; total, 64 sales.

Open interest: Dec., 15; Jan., 363; Mar., 106; May, 517; July, 65; total, 1066 lots.

Monday, Dec. 4.—Volume of sales: Dec. 6; Jan., 14; Mar., 2; May, 14; July, 12; total, 48 sales.

Open interest: Dec., 9; Jan., 361; Mar., 105; May, 515; July, 71; total, 1061 lots.

Tuesday, Dec. 5.—Volume of sales: Dec., 6; Jan., 10; Mar., 4; May, 39; July 4; total, 63 sales.

Open interest: Dec., 10; Jan., 358; Mar., 109; May, 545; July, 74; total, 1096 lots.

Wednesday, Dec. 6.—Volume of sales: Dec., 2; Jan., 18; Mar., 4; May, 55; July, 13; total, 92 sales.

Open interest: Dec., 6; Jan., 351; Mar., 112; May, 584; July 86; total, 1139 lots.

Thursday, Dec. 7.—Volume of sales: Dec., 3; Jan., 20; Mar., 5; May, 73; July, 33; total, 134 sales.

Open interest: Dec., 6; Jan., 341; Mar., 115; May, 603; July, 104; total 1,169 lots.

MEAT IMPORTS AT NEW YORK

Imports for the period November 22 to November 29, inclusive, at New York:

Point of origin	Commodity	Amount, lbs.
Argentina—Salami		551
—Frozen roast beef		22,649
Brazil—Canned corned beef		54,000
Canada—Fresh chilled calf livers		35,920
—Fresh frozen ham		21,225
—Canned pork ham		1,417
—Frozen beef livers		1,861
—Smoked sausage		752
—Fresh pork sausage		20
—Smoked bacon		3,756
Cuba—30% fresh chilled beef carcasses		15,483
—Fresh frozen beef cuts		25,730
Denmark—Liverpaste in tins		142
Finland—Sausage		3,091
Estonia—Cooked ham in tins		46,727
—Cooked picnics in tins		18,491
Hungary—Cooked ham in tins		105,739
—Cooked picnics in tins		61,087
—Tinned cooked pork loins		23,400
New Zealand—Fresh frozen calf livers		9,000
Norway—Meat cakes in tins		3,475
Switzerland—Bouillon cubes		9,918

CASH AND LOOSE LARD

Prices of cash, loose and leaf lard on the Chicago Board of Trade:

	Cash.	Loose.	Leaf.
Saturday, Dec. 2.....	5.95b	5.55n	.....
Monday, Dec. 4.....	5.90	5.47½n	5.62½n
Tuesday, Dec. 5.....	6.07½n	5.57½n	5.62½n
Wednesday, Dec. 6.....	6.12½n	5.67½n	5.75n
Thursday, Dec. 7.....	6.27½n	5.77½n	5.75n
Friday, Dec. 8.....	6.22½n	5.75n	5.75n

Watch the Classified Advertisements page for good men.

CHICAGO PROVISION MARKETS

CASH PRICES

Based on actual carlot trading Thursday, December 7, 1939.

REGULAR HAMS.		*S.P.
8-10	14	14½n
10-12	14	14½n
12-14	12%	13½n
14-16	12	12½n
10-16 Range	12½n	.....

BOILING HAMS.		*S.P.
16-18	11½	12%
18-20	11½	12%
20-22	11½	13
16-20 Range	11½	.....
16-22 Range	11½	.....

SKINNED HAMS.		*S.P.
10-12	14	15
12-14	13%	14½
14-16	13 @ 13½	13%
16-18	12½ @ 13	13½
18-20	13	14
20-22	13	14
22-24	13	14
24-26	12½	13½
25-30	11	12
25-up, No. 2's inc.	10½ @ 10%	.....

PICNICS.		*S.P.
4-6	9½	10
6-8	8½ @ 9	9½
8-10	8½	9%
10-12	8½	9%
12-14	8½	9%
8-up, No. 2's inc.	8½	.....

Short Shank ¾ over.

BELLIES.

(Square cut seedless)

	Green.	*D.C.
6-8	10%	11½
8-10	10½ @ 10½	11½
10-12	9½	10%
12-14	8	9
14-16	7½	8½
16-18	7½	8½

*Quotations represent No. 1 new cure.

GREEN AMERICAN BELLIES.

18-20	20-23	7 @ 7½
6½ @ 7	7	6½

D. S. BELLIES.

Clear. Rib.

	Clear.	Rib.
6-8	7½n	.....
8-10	7½n	.....
10-12	7	7½
12-14	6½	7
14-16	6½	6½
16-18	6	6½

D. S. FAT BACKS.

4½. 4½. 4½. 4½.

	4½	4½	4½	4½
12-14	4½	4½	4½	4½
14-16	5	5	5	5
16-18	5½	5½	5½	5½
18-20	5½	5½	5½	5½
20-25	5½	5½	5½	5½

OTHER D. S. MEATS.

Regular plates	6-8	5½ n
Clear Plates	4-6	4½
D. S. Jowl Butts.		4½
S. P. Jowls.		4½
Green Square Jowls.		5
Green Rough Jowls.	4½ @ 4½

LARD.

Prime Steam, cash	6.27½n
Prime Steam, loose	5.77½n
Neutral, in tierces	7.75n
Raw Leaf	5.75n

CHICAGO PROV. SHIPMENTS

Provision shipments from Chicago for week ended Dec. 2, 1939, were:

Week Dec. 2. Previous week. Same time '38.

Cured meats, lbs. 13,461,000 12,349,000 16,113,000
Fresh meats, lbs. 59,452,000 56,982,000 58,083,000
Lard, lbs. 4,747,000 3,849,000 2,244,000

FUTURE PRICES

SATURDAY, DECEMBER 8, 1939.

LARD—Open. High. Low. Close.

Dec.	6.87½	6.02½	6.00	5.87½b
Jan.	6.02½	6.52½	6.45	6.45ax
Mar.	6.32½	6.62½	6.60	6.60ax
May	6.77½	6.77½	6.75	6.75ax
July	6.77½	6.77½	6.75	6.75ax

MONDAY, DECEMBER 4, 1939.

LARD—Open. High. Low. Close.

Dec.	5.85-62½	5.85	5.80	5.85b
Jan.	5.92½	5.92½	5.90	5.95b
Mar.	6.32½	6.32½	6.30	6.35b
May	6.57½	6.57½	6.50	6.52½b
July	6.70-67½	6.70	6.65	6.67½ax

TUESDAY, DECEMBER 5, 1939.

LARD—Open. High. Low. Close.

Dec.	5.87½	6.02½	5.87½	6.02½ax
Jan.	6.00	6.12½	6.00	6.12½b
Mar.	6.47½	6.62½	6.55	6.50b
May	6.55	6.67½	6.55	6.67½ax
July	6.70	6.82½	6.70	6.92½b

WEDNESDAY, DECEMBER 6, 1939.

LARD—Open. High. Low. Close.

Dec.	6.07½	6.22½	6.22½	6.22½ax
Jan.	6.20	6.22½	6.15	6.22½
Mar.	6.55	6.62½	6.55	6.62½b
May	6.70-72½	6.80	6.70	6.80-77½
July	6.87½	6.92½	6.85	6.92½b

THURSDAY, DECEMBER 7, 1939.

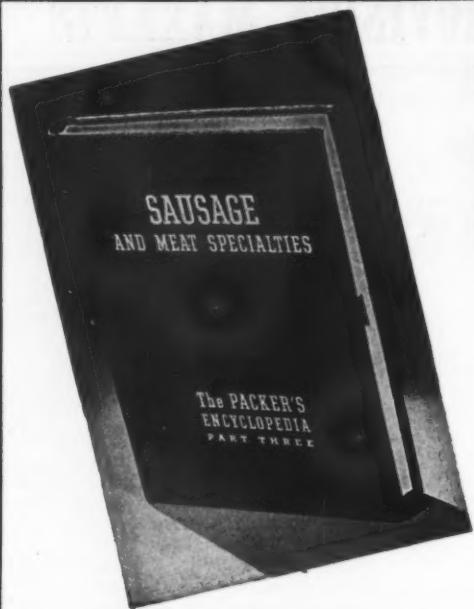
LARD—Open. High. Low. Close.

Dec.	6.17½	6.35	6.27½	6.27½ax
Jan.	6.35	6.50	6.35	6.50b
Mar.	6.80	6.80	6.72½	6.72½ax
May	6.95	6.95	6.85	6.85b
July	7.10	7.10	7.00	7.00b

GOVERNMENT GRADED MEAT

Meat graded by the U. S. Bureau of Agricultural Economics during October:

Oct. 1939, lbs.	Sept. 1939, lbs.	Oct. 1938, lbs.
Fresh and frozen—		
Beef	41,156,834	42,420,002
Veal	499,012	463,868
Calf	23,335	36,292
Lamb	1,765,017	1,520,069
Mutton and yearling	231,824	226,080
Pork	500,219	476,428
Cured—		
Beef	142,143	183,022
Pork	2,594,527	2,746,488
Sausage	3,014,235</td	



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CHAPTER HEADINGS

- 1 The Sausage Manufacturing Industry
- 2 Sausage Plant Layout
- 3 Refrigeration and Air Conditioning
- 4 Manufacturing Operations
- 5 Cost Figuring
- 6 Sausage Materials
- 7 Fresh Sausage
- 8 Frankfurts
- 9 Bologna
- 10 Liver Products
- 11 Mettwurst and Minced Sausage
- 12 Kosher Style Products
- 13 Foreign Style Sausage
- 14 Head Cheese, Souse, Jellied Products
- 15 Dry Sausage
- 16 Meat Loaves and Loaf Products
- 17 Meat Specialties
- 18 Cooked Hams and Corned Beef
- 19 Sausage Trouble Shooting
- 20 Sausage Laws and Regulations

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Tallow and Greases Firmer as Allied Markets Advance

Between 500,000 and 750,000 lbs., N. Y. extra sold at 5½c—Buyers and sellers eye lard prices closely—No sign of export demand for tallow.

TALLOW.—The tallow market at New York experienced fair demand and developed a steadier tone during the past week on improvement in lard and other oils. It was estimated that 500,000 to 750,000 lbs. changed hands at New York at 5½c, delivered, for extra, or unchanged from a week earlier. Offerings were only fair, while soapers appeared satisfied with current levels.

Nothing was heard of export demand for tallow, but some exporters believe that further strengthening in the commodity price structure in the United States will encourage foreign buyers to come into the market for soap and edible fats.

At New York, edible was quoted at 6½@6¾c; extra, 5½c, delivered, and special, 5¾c.

Tallow futures at New York were quiet and steady. A little business passed in the February delivery. December through March was 5.25 bid.

Tallow market was somewhat firmer at Chicago after the upturn in lard and oils. Edible sold Tuesday at 5½c, Chicago, January delivery; prime reported sold at 5½c. Special moved at midweek at 5½c, Chicago; some houses well sold up on tallow. Offerings were limited Thursday and demand was fair. There were bids of 5½c, Cincinnati, for prime and 5½c, Chicago, for edible. Chicago quotations Thursday:

Edible tallow	5½c
Fancy tallow	5½c
Prime packers	5½c
Special tallow	5½c
No. 1 tallow	5½c

STEARINE.—The market was quiet and barely steady at New York. There was little export or domestic interest. Oleo was quoted at 6¾@7c.

Demand was dull and the market easy at Chicago. Prime was quoted at 6½@6¾c, or ¾c down from a week earlier.

OLEO OIL.—Trade was slow at New York and the market was slightly lower. Extra was quoted at 7¾@8¼c; prime, 7½@8c, and lower grades, 7¼@7¾c.

Trade was limited at Chicago and the market was easy. Extra was quoted at 8c and prime at 7½c.

(See page 37 for later markets.)

LARD OIL.—Demand was quiet and the market lower by ¼ to ½c at New York. No. 1 quoted at 9c; No. 2, 8¾c; extra, 9¾c; extra No. 1, 9¼c; winter strained, 9¾c; prime burning, 10c, and prime inedible, 9¾c.

NEATSFOOT OIL.—Demand was limited and the New York market was

easier, with prices unchanged to ½c lower on the week. Cold test was quoted at 19¾c; extra, 9¼c; extra No. 1, 9c; prime, 9¾c, and pure, 14¾c.

GREASES.—There was fair turnover of greases in the New York market at unchanged levels this week. Yellow and house was 5c. Business was not extensive, as offerings were limited most of the time, but greases held their position of relative steadiness. However, with signs of slightly better feeling in tallow and improvement in the lard market, grease producers were inclined to withdraw and hold for better prices.

During the first few days of the current week 153,600 lbs. of grease was exported from New York. Fresh foreign demand was reported slack.

At New York, choice white was quoted at 5%@5½c nom.; brown, 4½c nominal, and yellow and house, 5c.

Higher grade greases firmed up at Chicago this week. Several tanks white sold Tuesday at 5½c, Chicago, and some brought a shade over this price. Several tanks yellow sold at 5c, Chicago, and No. 3 moved at 5½c, Southeast point. Yellow grease sold Wednesday at 5c, Chicago, and couple tanks of white at 5½c, Chicago, December. Quotations on Thursday in Chicago:

Choice white grease	5%@5½c
A-white grease	5½c
B-white grease	5½c
Yellow grease, 10-15 f.f.a.	5 @5½c
Yellow grease, 15-20 f.f.a.	4½@4¾c
Brown grease	4½@4¾c

FERTILIZER PRICES BASIS NEW YORK DELIVERY.

Ammoniates.

Ammonium sulphate, bulk, per ton, basis ex-vessel Atlantic ports, Dec. to June, 1940..... \$27.75@28.00

Blood, dried, 16% per unit..... @ 3.50

Unground fish scrap, dried, 11½% ammonia, 16% B. P. L., f.o.b. fab factory 4.25 & 10c

Fish meal, foreign, 11½% ammonia, 10% B. P. L., c.i.f. spot..... @52.50
Dec. shipment @52.50 |

Fish scrap, acidulated, 7% ammonia, 8% A. P. A., f.o.b. fish factories..... 2.50 & 50c

Soda nitrate, per net ton: bulk, Dec. to June, 1940, inclusive, ex-vessel Atlantic and Gulf ports..... @27.00
in 200-lb. bags..... @28.30

Fertilizer tankage, ground, 10% ammonia, 10% B. P. L., bulk..... @29.00

Feeding tankage, unground, 10-12% ammonia, 15% B. P. L., bulk..... 3.50 & 10c

Phosphates.

Foreign bone meal, steamed, 3 and 50 bags, per ton, c.i.f. @30.00

Bone meal, raw, 4½% and 50%, in bags, per ton, c.i.f. @30.00

Superphosphate, bulk, f.o.b. Baltimore, per ton, 16% fat. @ 8.00

Dry Rendered Tankage.

50/55% protein, unground..... @85c

60% protein, unground..... @87½c

BY-PRODUCTS MARKETS

Chicago, December 7, 1939.

Prices ranged lower this week on cracklings and several other by-products items. Buyers showing tendency to lower ideas.

Blood.

Last sales of blood reported at \$3.90; more offered at this figure.

Unit Ammonia.
Unground \$ 3.85 @ 3.90

Digester Feed Tankage Materials.

This market easier the past week, with sales drying up. Sale of 11-12% tankage reported at \$4.05, Chgo.

Unground, 11 to 12% ammonia..... \$ 4.10
Unground, 6 to 10%, choice quality..... 3.35 @ 4.50
Liquid stick 2.25 @ 2.50

Packinghouse Feeds.

Packinghouse feeds continue steady at last week's prices; blood-meal quoted above last week. Sales good.

Carlots, Per ton.
60% digester tankage \$ @60.00
50% meat and bone scraps @57.50
Blood-meal @70.00
Special steam bone-meal @50.00

Bone Meals (Fertilizer Grades).

Bone meals firm at last quoted prices.

Per ton.
Steam, ground, 3 & 50 \$32.50 @ \$35.00
Steam, ground, 2 & 26 32.50 @ \$35.00

Fertilizer Materials.

This market remains nominally firm at previous quotations.

Per ton.
High grd. tankage, ground, 10@11% am. \$ 3.50 @ 3.75 & 10c
Bone tankage, ungrd., per ton. @25.00
Hoof meal @ 3.00

Dry Rendered Tankage.

Cracklings about 5c below last week; sales scarce. Sales of low test at 90c, Chgo., and high test at 85c, Chgo., reported this week.

Hard pressed and expeller unground, up to 48% protein (low test)..... \$.87½ @ .90
above 48% protein (high test)..... .85 @ .87½
Soft prod. pork, ac. grease and quality, ton @55.00
Soft prod. beef, ac. grease and quality, ton 42.50 @ 45.00

Gelatine and Glue Stocks.

Gelatine and glue stocks market quiet and unchanged.

Per ton.
Calf trimmings \$18.00 @ \$20.00
Sinevus, plazies @18.00
Cattle jaws, skulls and knuckles @35.00
Hide trimmings 13.00 @ \$14.00
Pig skin scrapping and trim, per lb., i.e. 3½ @ 3½c

Horns, Bones and Hoofs.

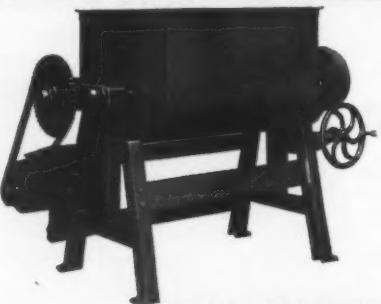
Market on horns, bones and hoofs remains firm at last quoted prices.

Per ton.
Horns, according to grade \$35.00 @ \$60.00
Cattle hoofs, house run @35.00
Junk bones @25.00

Animal Hair.

Animal hair market firm but not active; some trading reported in coil dried. Firm prices on summer coil dried and cattle switches.

Winter coil dried, per ton..... \$30.00 @ \$35.00
Summer coil dried, per ton..... 22.50 @ 25.00
Winter processed, black, lb. 8½ @ 7c
Winter processed, gray, lb. 5½ @ 6c
Summer processed, gray, lb. 3 @ 3½c
Cattle switches 2½ @ 2½c



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EASTERN FERTILIZER MARKETS

New York, December 6, 1939.

The blood market was very quiet the past week with little trading reported.

A large quantity of cracklings was sold at .82½c, f.o.b. New York, with the sellers now asking. 85c; .82½c represented a drop of .05c per unit from previous sales.

Tankage was offered at about \$3.75 and 10c, with little buying interest noted.

Fertilizer manufacturers are busy getting ready for the Spring season and are taking more materials on contract.

"Prices at wholesale of practically every kind of meat are now substantially below the peak prices reached three months ago, and many cuts are lower than they were a year ago at this time.

"The most demanded sizes of pork loins are selling now at wholesale for less than half the price obtaining in September, and in some cases at the lowest levels in five years. Other cuts of pork, including both fresh and cured products, are lower, with declines ranging from 11 to 50 per cent. Beef of all grades and weights has shared in the decline. Prices of some grades of lamb at wholesale are as much as 23 per cent lower than prices of three months ago, and veal prices generally have declined.

"With supplies of food being rationed to people in many European countries, the United States is fortunate in that supplies of meat are adequate, prices reasonable, and quality unusually good."

MORE MEAT AT LOW PRICES

"Under the stimulus of relatively low prices and unusually good quality, consumption of pork increased about 80 million lbs. in November as compared with the same month last year," Wesley Hardenbergh, president of the Institute of American Meat Packers, reported this week. He said:

"The American public ate approximately 18 per cent more pork last month than they ate in November last year, according to the best estimates available—apparently the largest quantity of pork consumed in any month during the last six years. Consumption of other meats and lard also was unusually large.

In the News 40 Years Ago

(Continued from page 21.)

A batch of twelve Hereford steers, born and raised in North Park, Col., were sold last week to the Colorado Packing Co., Denver, for \$5.75 per 100 lbs. This is the highest price paid for range cattle since 1882. The steers averaged 1,552 lbs. and brought the owners \$89.25 each.

In the News 25 Years Ago

(From The National Provisioner, December 19, 1914.)

A dispatch from Washington to the New York Journal of Commerce again reveals the fact that the State Department has been having great difficulty in obtaining uninterrupted passage for neutral ships loaded with American meats and provisions destined to Rotterdam. Practically all the large packers of the country have been affected by the interference of Great Britain and have kept the State Department busy with protests.

WAR CASUALTY NOTE.—Over 5,000,000 killed in Chicago so far this year. Armour and Company lead with approximately 1,000,000; Swift & Company next with about 650,000; Sulzberger & Sons Company, 500,000, and the Western Packing and Provision Co., about 450,000.

F. R. Burrows, vice president and general manager of the G. H. Hammond Company, Chicago, was in New York last week. While there he took in the United Dressed Beef Company's annual ball (their twenty-first), and he was a center of attraction.

One of the most enjoyable affairs of the season was the first big ball of employees of the Cudahy Packing Co., held at Terrace Garden, New York, last Tuesday. P. L. Hughes, general Eastern manager, led the grand march.

New,

small M&M HOG

especially developed for
the small renderer!

This new economy HOG performs all the duties of the larger M & M machines . . . but with a smaller capacity for small renderers and animal food manufacturers. Grinds fats, bones, carcasses, viscera, etc. to uniform fineness. Reduces cooking time, saves steam and power, lowers operating costs! Write for Bulletin.

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RUMOR, INDIANA, U.S.A.

Cotton Oil Futures Rally on Improved Lard Prices

Prices up 35 points from recent lows; trade broadens—Strength in surrounding markets a constructive influence—Cotton oil supplies believed declining; imports shrink.

COTTONSEED oil futures market at New York enjoyed broader trade and displayed a stronger tone this week. Prices rallied about 35 points from the recent low levels. Tightness in December and reports of some improvement in cash oil and shortening demand aided the upturn.

Strength was mainly the result of improvement in the lard price situation and strength in other commodity markets which brought more outside interest on the constructive side of oil. There was some covering by shorts. The market ran into liberal hedge selling in the late deliveries on a scale upwards; this selling, with profit taking, supplied requirements and kept the advance very orderly.

The local professional element believes that the edible fat situation has taken a turn for the better and that supplies of cottonseed oil are on the decrease and will continue to decline until another crop is raised. In the meantime, imports of oils into the United States are growing smaller and the narrowing of the hog-corn price ratio may discourage further expansion in hog production.

Consumers' Stocks Falling

The trade has been eating into supplies on hand for some weeks past. These stocks have been cut down so materially that the cash trade is satisfied that any happening of a really constructive nature will start a big consumer demand for oil. Some new business with consumers materialized during the week, and there was talk of export interest in some oils other than cottonseed.

The trade is satisfied that the war will not be a short one and is disposed to expect greater foreign demand for edible oils and fats to materialize sooner or later.

Some small deliveries were made on December contracts during the week. Tenders have totaled 26 thus far. The spot month was relatively tight. Gossip around the ring indicated that a short interest exists in December oil, and that there must be further tenders before the nearby situation is relieved.

Crude oil was very firm in the South. Fair business passed at 5½ and 5¾c in the Southeast and Valley, and at 5½@5.5c in Texas. Southeast and Valley was later 5¾c bid and 5¾c asked and Texas was 5½@5¾c bid. There were trade estimates that 60 to

75 per cent of the crude crush has already been marketed. It is believed that the balance of the oil is in strong hands and will not press on the market during the balance of this season.

Sentiment generally was more friendly toward higher cottonseed oil prices than it has been for many weeks past. Nevertheless, it is admitted that a great deal depends upon lard price developments.

COCONUT OIL.—Demand was fair and the market was firm at New York. Domestic trade was stimulated somewhat by firmness in copra and reports of typhoon damage to the crop in the Philippines. There were some export inquiries for coconut oil in the New York market. Tanks at New York were quoted at 3¾c and on the Pacific coast at 3%@3¾c.

SOYBEAN OIL.—Fairly active trade was reported in this market on a basis of 5c for futures, or up fully ¼c on the week. The business was understood to have been done well into next summer.

CORN OIL.—Demand was fairly active this week and prices were firmer. The New York market was called 5¾c.

PALM OIL.—With spot supplies at New York decreasing, although some oil is received from primary sources from time to time, the market has been very steady. Nigre was quoted at 5½c and Sumatra oil at 4¾c.

PALM KERNEL OIL.—Market was purely nominal.

OLIVE OIL FOOTS.—Quiet but small sales were reported at New York at 9c.

PEANUT OILS.—The market was

quiet but steady. Prices were quoted at 6½c, f.o.b. Southeast.

COTTONSEED OIL.—Valley and Southeast crude was quoted Wednesday at 5¾c bid; Texas, 5½c nominal at common points, and Dallas, 5¾c nominal.

Futures market transactions for the week at New York were:

FRIDAY, DECEMBER 1, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December ..	8	660	657	655	660
January ..	11	659	658	654	658
February ..	..	..	..	660	nom
March ..	26	678	671	671	673
April ..	..	..	..	677	nom
May ..	29	687	683	682	684
June ..	..	..	..	687	nom
July ..	80	695	692	692	693

Sales 104 contracts.

SATURDAY, DECEMBER 2, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December ..	..	..	..	650	656
January ..	4	658	654	653	655
February ..	..	..	..	658	nom
March ..	8	673	672	670	672
April ..	..	..	..	675	nom
May ..	15	684	681	681	trad
June ..	..	..	..	686	nom
July ..	18	684	680	686	91tr

Sales 35 contracts.

MONDAY, DECEMBER 4, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December ..	5	650	650	645	652
January ..	..	..	..	648	652
February ..	..	..	..	653	nom
March ..	25	670	662	667	70tr
April ..	..	..	..	674	nom
May ..	5	677	673	670	680
June ..	..	..	..	684	nom
July ..	87	688	683	688	trad

Sales 72 contracts.

TUESDAY, DECEMBER 5, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December ..	4	667	666	670	674
January ..	21	668	656	668	670
February ..	..	..	..	671	nom
March ..	36	688	687	685	trad
April ..	..	..	..	690	nom
May ..	35	685	683	684	685
June ..	..	..	..	689	nom
July ..	103	706	688	704	706

Sales 199 contracts.

WEDNESDAY, DECEMBER 6, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December ..	25	670	672	670	674
January ..	..	..	..	672	675
February ..	..	..	..	677	nom
March ..	33	682	685	682	trad
April ..	..	..	..	697	nom
May ..	62	701	695	701	705
June ..	..	..	..	706	nom
July ..	99	712	704	711	trad

Sales 219 contracts.

THURSDAY, DECEMBER 7, 1939.

	—Range.—			—Closing.—	
	Sales.	High.	Low.	Bid.	Asked.
December	690	684	690	nom
January	686	675	675	bid
February	703	692	692	bid
March	713	703	702	bid
May	722	711	713	nom

Sales 295 contracts.

(See page 37 for later markets.)

SOUTHERN MARKETS

New Orleans.

(Special Wire to The National Provisioner.)

New Orleans, La., December 7, 1939. Cotton oil futures have advanced the past three days, with indications of steady to higher prices. Crude is higher at 5%@5¾c lb., f.o.b. mills, with few offerings and small lots only. Soapstock and black grease are wanted, with sellers views ¼c lb. above buyers. Continuance of the war and a heavy marketing season for hogs and cotton seed nearing the end, markets should do better.

Dallas.

(Special Wire to The National Provisioner.)

Dallas, Texas, December 6, 1939.—Forty-three per cent cottonseed cake and meal basis Dallas for interstate shipment quoted at \$32.50. Prime cottonseed oil quoted at 5½@5¾c lb. bid, depending on location.

WAGE-HOUR HEAD NAMED

Harold D. Jacobs, who has been serving as active administrator of the wage-hour division of the Department of Labor since resignation of Elmer F. Andrews, has been given a recess appointment as administrator by President Roosevelt. Mr. Jacobs will serve as administrator until congressional action has been taken enabling Col. Philip Fleming, army engineer corps, to assume the title of administrator.

HULL OIL MARKETS

Hull, England, December 6, 1939.—Refined cotton oil was quoted at 30s 6d, ex mill, naked. Egyptian crude, 26s.

CHICAGO MARKET PRICES

WHOLESALE FRESH MEATS

Carcass Beef

	Week ended	Cor. week,	
	Dec. 6, 1939.	1938.	per lb.
Prime native steers—			
400-600	17 @18	19 @19 1/4	
600-800	16 @17	19 @19 1/4	
800-1000	16 @17	19 1/2 @19 1/4	
Good native steers—			
400-600	16 1/2 @17 1/2	16 1/2 @17 1/2	
600-800	15 1/2 @16	17 @17 1/2	
800-1000	15 1/2 @16	17 @17 1/2	
Medium steers—			
400-600	16 @16 1/2	14 @14 1/2	
600-800	14 1/2 @15 1/2	14 @14 1/2	
800-1000	14 1/2 @15 1/2	14 1/2 @15 1/2	
Heifers, good, 400-600	15 1/2 @16 1/2	15 1/2 @16 1/2	
Cows, 400-600	10 % @11 1/2	10 @10 1/2	
Hind quarters, choice	18 @19	23 @23	
Fore quarters, choice	12 1/2 @13	16 @16 1/2	

Beef Cuts

Steer loins, prime..... unquoted	1/33
Steer loins, No. 1..... 1/23	1/33
Steer loins, No. 2..... 1/23	1/23
Steer short loins, prime..... unquoted	1/50
Steer short loins, No. 1..... 1/40	1/40
Steer short loins, No. 2..... 1/27	1/32
Steer loin ends (hips)..... 1/22	1/28
Steer loin ends, No. 2..... 1/19	1/27
Cow loins..... 1/16	1/18
Cow short loins..... 1/18	1/20
Cow loin ends (hips)..... 1/18	1/18
Steer ribs, prime..... unquoted	1/60
Steer ribs, No. 1..... 1/20	1/23
Steer ribs, No. 2..... 1/16	1/16
Cow ribs, No. 2..... 1/13	1/16
Cow ribs, No. 3..... 1/12	1/12
Steer rounds, prime..... unquoted	1/18
Steer rounds, No. 1..... 1/16	1/17
Steer rounds, No. 2..... 1/15 1/2	1/15 1/2
Steer chuck, prime..... unquoted	1/15 1/2
Steer chuck, No. 1..... 1/14	1/15
Steer chuck, No. 2..... 1/13 1/2	1/14
Cow rounds..... 1/13	1/13
Cow chuck..... 1/10 1/2	1/11
Steer plates..... 1/8 1/2	1/11
Medium plates..... 1/8	1/9
Brislings, No. 1..... 1/12	1/13
Steer navel ends..... 1/7	1/9 1/2
Cow navel ends..... 1/7	1/9 1/2
Fore shanks..... 1/9	1/9 1/2
Hind shanks..... 1/8	1/7 1/2
Strip loins, No. 1 hns..... 1/48	1/55
Strip loins, No. 2..... 1/38	1/50
Sirloin butts, No. 1..... 1/26	1/29
Sirloin butts, No. 2..... 1/21	1/21
Beef tenderloins, No. 1..... 1/55	1/63
Beef tenderloins, No. 2..... 1/52	1/50
Rump butts..... 1/14	1/13 1/2
Flank steaks..... 1/22	1/20
Shoulder clods..... 1/14 1/2	1/14 1/2
Hanging tenderloin..... 1/17	1/17
Insidies, green, 6@6 lbs..... 1/16 1/2	1/16 1/2
Outsides, green, 5@6 lbs..... 1/15	1/14 1/2
Knuckles, green, 5@6 lbs..... 1/16	1/14 1/2

Beef Products

Brains.....	1/6	1/7
Hearts.....	1/10	1/10
Tongues.....	1/18	1/17
Sweetbreads.....	1/18	1/17
Ox-tail.....	1/10	1/12
Fresh tripe, plain.....	1/10	1/10
Fresh tripe, H. C.....	1/11 1/2	1/11 1/2
Livers.....	1/20	1/19
Kidneys.....	1/9	1/10

Veal

Choice carcass.....	1/15	16 @17
Good carcass.....	1/13 1/2	13 @15
Good saddles.....	1/18	17 @20
Good racks.....	1/11	12 @14
Medium racks.....	1/9	1/10

Veal Products

Brains, each.....	1/10	1/10
Sweetbreads.....	1/30	1/36
Calf livers.....	1/36	1/49

Lamb

Choice lambs.....	1/16	1/17
Medium lambs.....	1/15	1/16
Choice saddles.....	1/18	1/20
Medium saddles.....	1/19	1/18
Choice fores.....	1/13	1/14
Medium fores.....	1/12	1/15
Lamb fries.....	1/82	1/31
Lamb tongues.....	1/17	1/16
Lamb kidneys.....	1/15	1/20

Mutton

Heavy sheep.....	1/6	1/7
Light sheep.....	1/8	1/9
Heavy saddles.....	1/7	1/9
Light saddles.....	1/10	1/11
Heavy fores.....	1/5	1/5
Light fores.....	1/6	1/7
Mutton legs.....	1/10	1/12
Mutton lams.....	1/9	1/10
Mutton stew.....	1/6	1/6
Sheep tongues.....	1/13 1/2	1/12 1/2
Sheep heads, each.....	1/11	1/10

Fresh Pork and Pork Products

Pork loins, 8-10 lbs. av.....	1/13	1/15
Picnics.....	1/10 1/2	1/13
Skinned shoulders.....	1/11	1/13
Tenderloins.....	1/28	1/30
Spare ribs.....	1/10 1/2	1/12 1/2
Back fat.....	1/7	1/9
Boston butts.....	1/11 1/2	1/14
Boneless butts, cellar trim, 2@4	1/15	1/17 1/2
Hocks.....	1/8 1/2	1/9
Tails.....	1/8	1/9
Neck bones.....	1/4	1/4
Shank bones.....	1/9	1/11
Blade bones.....	1/9	1/11
Pigs' feet.....	1/3 1/2	1/4
Kidneys, 1/2 lbs. av.....	1/7	1/10
Livers.....	1/8	1/9
Brains.....	1/7	1/9
Ears.....	1/4	1/8
Snouts.....	1/6 1/2	1/5
Heads.....	1/7 1/2	1/6 1/2
Chitterlings.....	1/6 1/2	1/6 1/2

DRY SALT MEATS

Clear bellies, 16@18 lbs.....	1/7 1/2 n
Clear bellies, 18@20 lbs.....	1/7 1/2 n
Rib bellies, 25@30 lbs.....	1/7 1/2
Fat backs, 10@12 lbs.....	1/5
Fat backs, 14@16 lbs.....	1/5 1/2
Regular plates.....	1/6 n
Jowl butts.....	1/4 n

WHOLESALE SMOKED MEATS

Fancy regular hams, 14@16 lbs., parchment paper.....	17 @18 1/2
Fancy skinned hams, 14@16 lbs., parchment paper.....	18 1/2 @19 1/2
Standard reg. hams, 14@16 lbs., plain.....	10 @17 1/2
Picnics, 4@3 lbs., short ham, plain.....	13 @14
Picnics, 4@3 lbs., long ham, plain.....	11 1/2 @12 1/2
Fancy bacon, 6@8 lbs., plain.....	17 1/2 @18 1/2
Standard bacon, 6@8 lbs., plain.....	14 @14 1/2
Indians, 8@12 lbs.....	37 @38
Oxtails, 5@9 lbs.....	34 @35
Knuckles, 4@9 lbs.....	34 @35
Cooked hams, choice, skin on, fatted.....	28 1/2
Cooked hams, choice, skinless, fatted.....	31 1/2
Cooked picnics, skin on, fatted.....	24
Cooked picnics, skinned, fatted.....	24

BARRELED PORK AND BEEF

Clear fat back pork:	
70-80 pieces.....	5 @12.50
80-100 pieces.....	6 @11.00
100-125 pieces.....	11 @10.00
Clear plate pork, 25-30 pieces.....	13 @13.00
Ham pork.....	13 @13.00
Brisket pork.....	18 @18.00
Plate beef.....	20 @20.50
Extra plate beef.....	20 @20.50

VINEGAR PICKLED PRODUCTS

Pork feet, 200-lb. bbl.....	\$15.75
Lamb tongue, short cut, 200-lb. bbl.....	65.00
Regular triple, 200-lb. bbl.....	17.25
Honeycomb tripe, 200-lb. bbl.....	22.25
Pocket honeycomb tripe, 200-lb. bbl.....	26.00

SAUSAGE MATERIALS

(Packed basis.)

Regular pork trimmings.....	5 1/2 @ 6
Special lean pork trimmings 85%.....	11 1/2
Extra lean pork trimmings 95%.....	12 1/2
Pork cheek meat (trimmed).....	6 1/2 @ 7
Pork livers.....	1/2 1/2
Native boneless bull meat (heavy).....	14 1/2 @ 14 1/2
Boneless chuck.....	11 1/2
Shank meat.....	12
Beef trimmings.....	10 1/2 @ 10 1/2
Beef cheeks (trimmed).....	9 1/2
Dressed canners, 350 lbs. and up.....	9 1/2
Dressed cutter cows, 400 lbs. and up.....	9 1/2
Dr. bologna bulls, 600 lbs. and up.....	11 1/2
Pork tongues, canner trim, S. P.	7 1/2
Cervelat, choice, in hog bungs.....	1/28
Thuringer cervelat.....	1/27 1/2
Farmer.....	1/28
Holsteiner.....	1/27 1/2
B. C. salami, choice.....	1/32
Milano, salami, choice in hog bungs.....	1/31
B. C. salami, new condition.....	1/19
Frises, choice, in hog middles.....	1/31
Genoa style salami, choice.....	1/38
Pepperoni.....	1/28
Mortadella, new condition.....	1/39
Capicola.....	1/39
Italian style hams.....	1/32
Virginia hams.....	1/40 1/2

DOMESTIC SAUSAGE

(Quotations cover fancy grades.)

Fork sausage, in 1-lb. carton.....	@20%
Country style sausage, fresh in link.....	@15%
Country style sausage, fresh in bulk.....	@13%
Frankfurters, in sheep casings.....	@20%
Frankfurters, in hog casings.....	@21 1/2
Bologna in beef bungs, choice.....	@16
Bologna in beef middles, choice.....	@16
Liver sausage in hog bungs.....	@16
Smoked liver sausage in hog bungs.....	@16
Head cheese.....	@14 1/2
New England hamcheese specialty.....	@18
Tongue & blood.....	@19 1/2
Blood sausage.....	@17
Souse.....	@16
Polish sausage.....	@20 1/2

LARD

Prime steam, cash, Bd. Trade.....	6 2/3 1/2
Prime steam, loose, Bd. Trade.....	5 7/14
Refined lard, tierces, f.o.b. Chgo.....	7 6/2 1/2
Kettle rend., tierces, f.o.b. Chgo.....	8 6/2 1/2
Leaf, kettle rend., tierces, f.o.b. Chgo.....	8 3/4 1/2
Neutral, tierces, f.o.b. Chicago.....	8 3/4 1/2
Shortening, tierces, c.a.f.....	9.75

OLEO OIL AND STEARINE

Prime oleo oil (in tierces).....	@ 7 1/2
Prime No. 2 oleo oil.....	6 1/2 @ 6 1/2
Prime oleo stearine.....	6 1/2 @ 6 1/2

TALLOWS AND GREASES

(Loose, basis Chicago.)

Edible tallow, 1% acid.....	5%
Edible tallow, under 2% acid.....	5 1/2 @ 5 1/2
Prime packers tallow, 3-4% acid.....	5 1/2
Special tallow.....	5 1/2
No. 1 tallow, 10% f.f.a.....	5 1/2
Choice	

Chicago Markets

CURING MATERIALS

	Cwt.
Nitrite of soda (Chgo. w/has stock).	
In 425-lb. bbls., delivered.....	\$ 8.75
Salt peter, less than ton lots:	
Dbl. refined granulated.....	6.90
Small crystals.....	7.90
Medium crystals.....	8.25
Large crystals.....	8.65
Dbl. rfd. gran. nitrate of soda.....	3.75
Salt, per ton, in minimum car of 80,000 lbs. only, f.o.b. Chicago, per ton:	
Granulated.....	7.20
Medium, dried.....	10.20
Rock.....	6.80
Sugar—	
Raw, 96 basis, f.o.b. New Orleans.....	@2.95
Second sugar, 90 basis.....	None
Standard gran., f.o.b. refiners (2%).....	@4.65
Packers' curing sugar, 100 lb. bags, f.o.b. Reserve, La., less 2%.....	@4.25
Packers' curing sugar, 250 lb. bags, f.o.b. Reserve, La., less 2%.....	@4.15
Dextrose, in car lots, per cwt. (in cotton bags).....	@3.84
In paper bags.....	@3.79

SAUSAGE CASINGS

(F. O. B. Chicago.)

(Prices quoted to manufacturers of sausage.)

Beef casings:	
Domestic rounds, 180 pack.....	@1.16
Domestic rounds, 140 pack.....	@1.37
Export rounds, wide.....	@1.45
Export rounds, medium.....	@1.55
Export rounds, narrow.....	@1.59
No. 1 weasands.....	@1.06
No. 2 weasands.....	@1.09
No. 1 bungs.....	@1.12
No. 2 bungs.....	@1.08
Middles, regular.....	@1.50
Middles, select, wide, 2@2½ in.....	@1.60
Middles, select, extra wide, 2½ in. and over.....	@1.80
Dried bladders:	
12-15 in. wide, flat.....	.85
10-12 in. wide, flat.....	.70
8-10 in. wide, flat.....	.40
6-8 in. wide, flat.....	.25
Pork casings:	
Narrow, per 100 yds.....	2.25
Narrow, special, per 100 yds.....	2.20
Medium, regular.....	1.70
English, medium.....	1.45
Wide, per 100 yds.....	1.35
Extra wide, per 100 yds.....	.90
Export bungs.....	.19
Large prime bungs.....	.14
Medium prime bungs.....	.07
Small prime bungs.....	.04
Middles, per set.....	.14
Stomachs.....	.09

SPICES

(Basis Chicago, original bbls., bags or bales.)

	Whole. Ground.	Per lb. Per lb.
Allspice, prime.....	18	20
Refined.....	18½	20½
Chili pepper.....	..	23
Powder.....	..	23
Cloves, Amboyna.....	31	37
Zanzibar.....	22	27
Madagascar.....	27	32
Ginger, Jamaica.....	17	21½
African.....	14	18
Mace, Fancy Banda.....	70	78
East India.....	62	70
East & West India Blend.....	63	70
Mustard flour, fancy.....	25	26
No. 1.....	19	21
Nutmeg, fancy Banda.....	24	29
East India.....	29	36½
East & West India Blend.....	28	33
Paprika, Spanish.....	40	45
Fancy Hungarian.....	39	44
No. 1 Hungarian.....	37	40
Pepper, Ceyenne.....	50	55
Red No. 1.....	21	24
Black Malabar.....	62	74
Black Lampung.....	10½	14½
Pepper, white Singapore.....	94	12½
Muntok.....	9½	13
Packers.....	..	12

SEEDS AND HERBS

	Ground for	Whole. Sausage.
Caraway seed.....	18	23
Celery seed, French.....	23	27
Cominos seed.....	20	25
Coriander Morocco bleached.....	7	8½
Coriander Morocco natural No. 1.....	6½	8½
Mustard seed fancy yellow.....	21	..
American.....	16	11
Mustard, French.....	35	41
Oregano.....	14½	18½
Sage fancy Dalmatian.....	16	20
Dalmatian No. 1.....	15	19

NEW YORK MARKET PRICES

LIVE CATTLE

	Steers	Cows, cutter and common	Cows, good	Bulls, medium	nom.
	\$ 4.75	\$ 5.75	\$ 4.50	\$ 7.50	\$ 6.75
	3.50	4.50	3.50	7.50	7.50
	7.00	7.50	6.25	7.50	7.50
	6.25	6.75	6.25	7.50	7.50

LIVE CALVES

	Vealers, good and choice	Vealers, common and medium	Vealers, culs	nom.
	\$ 10.00	\$ 12.50	\$ 8.00	\$ 9.50
	8.00	9.25	5.50	7.50

LIVE HOGS

	Hogs, good and choice, 158-193-lb.	\$ 5.90
	nom.	nom.

LIVE LAMBS

	Lambs, good and choice, 83-lb.	\$ 10.00	@13.00
	16	@17	@17½
	17	@17	@18½

DRESSED BEEF

City Dressed.

	Choice, native, heavy	16½ @17½
	17	@18
	18	@19

BEEF CUTS

	Western	City.
No. 1 ribs.....	23	24
No. 2 ribs.....	20	21
No. 3 ribs.....	19	20
No. 1 loins.....	32	36
No. 2 loins.....	26	32
No. 3 loins.....	20	24
No. 1 hinds and ribs.....	19	25
No. 2 hinds and ribs.....	15	19
No. 1 rounds.....	17	17
No. 2 rounds.....	16	18
No. 3 rounds.....	15	15
No. 1 chuck.....	15	15
No. 2 chuck.....	14	14
No. 3 chuck.....	13	13
City dressed bologna.....	13½ @14½	13½ @14½
Rolls, reg. 4@6 lbs. av.....	18	20
Rolls, reg. 6@8 lbs. av.....	23	25
Tenderloins, 5@6 lbs. av.....	50	60
Tenderloins, 5@6 lbs. av.....	50	60
Shoulder clods.....	16	18

DRESSED VEAL

	Good	14 @16
	13½ @14	13½ @14
	13	13½ @14

DRESSED SHEEP AND LAMBS

	Genuine spring lambs, good	16 @16½
	15	16
	14	15
	13	14
	9	11
	7	9

DRESSED HOGS

	Hogs, good and choice (110-140 lbs.)	head on; leaf fat in.....	\$ 9.00	@ 9.50
	head on; leaf fat in.....	11.00	@12.00	head on; leaf fat in.....

FRESH PORK CUTS

	Pork loins, fresh, Western, 10@12 lbs.	12½ @13
	Shoulders, Western, 10@12 lbs. av.....	10½ @11½
	Ribs, regular, Western.....	16 @16
	Ham, Western, fresh, 10@12 lbs. av.....	15 @15
	Picnics, Western, fresh, 6@8 lbs. av.....	11½ @12½
	Pork trimmings, extra lean.....	14½ @15½
	Pork trimmings, regular, 30% lean.....	8 @9
	Spareribs.....	10½ @11½

COOKED HAMS

	Cooked hams, choice, skinless, fatted.....	@37c
	nom.	nom.

SMOKED MEATS

	Regular hams, 8@10 lbs. av.....	20 @21
	Regular hams, 10@12 lbs. av.....	19½ @20½
	Regular hams, 12@14 lbs. av.....	18½ @19½
	Skinned hams, 10@12 lbs. av.....	20½ @21
	Skinned hams, 12@14 lbs. av.....	19 @20
	Skinned hams, 16@18 lbs. av.....	19 @20
	Skinned hams, 18@20 lbs. av.....	19 @20
	Picnics, 6@8 lbs. av.....	15 @16
	City pickled bellies, 8@12 lbs. av.....	16 @17
	Bacon, boneless, Western.....	18 @19
	Bacon, boneless, city.....	17 @18
	Bacon, boneless, city.....	17 @18
	Roulottes, 8@10 lbs. av.....	19 @20
	Beef tongue, light.....	22 @23
	Beef tongue, heavy.....	23 @24

FANCY MEATS

	Fresh steer tongues, untrimmed.....	18c a pound

<tbl_r cells

HIDES AND SKINS

Packers get $\frac{1}{2}$ c advance on most hide descriptions—Light native cows from River and light average points up $\frac{3}{4}$ c—Heavy calfskins sell 1c up—Native kips $\frac{1}{2}$ c higher.

Chicago

PACKER HIDES.—Packers obtained an advance of $\frac{3}{4}$ c this week on light native cows, with $\frac{1}{2}$ c advances on all other descriptions moving, total sales so far being a little over 50,000 hides.

The previous week's trading, including quiet sales at the end of the week and bookings to tanning accounts, ran to a total of around 150,000 hides; with about 100,000 more moved on the eastern and western coasts, this left packers in a very good position on stocks. In fact, packers are going into the winter season in a more closely sold up condition than they have enjoyed for many years.

Tanner demand still runs almost entirely to light average stock, but this condition is expected to change as shoe production picks up for the spring run. Traders were credited with taking part of this week's sales, especially native steers, and these will of course come back on the market for re-sale if hide futures sag off to any extent.

A total of 7,000 Nov. native steers moved to traders and 2,500 to tanners basis 14 $\frac{1}{2}$ c for heavies; 1,600 Nov. extreme light native steers sold at 15c.

Butt branded steers were salable at 14 $\frac{1}{2}$ c, or $\frac{1}{2}$ c up, while packers wanted to include Colorados at 14 $\frac{1}{2}$ c, this being the reverse of the recent market situation. One packer was credited with moving butt brands late this week at 14 $\frac{1}{2}$ c and Colorados at 14 $\frac{1}{2}$ c, details not yet available. Heavy Texas steers are offered at 14 $\frac{1}{2}$ c, the advanced price. Light Texas steers are scarce and salable at 13 $\frac{1}{2}$ c if offered. Extreme light Texas steers are quotable at 14c.

Bids of 14c were declined by packers for heavy native cows, with 14 $\frac{1}{2}$ c asked; the Association was credited with selling 750 Nov. at 14c. A packer sold 5,000 Nov. northern light native cows at last week-end at 14c; 2,000 River point light cows sold early this week at 14 $\frac{1}{2}$ c, and 7,000 mixed River and other light average points were sold later also at 14 $\frac{1}{2}$ c; Association sold 1,000 Dec. at 14 $\frac{1}{2}$ c. A packer sold 2,000 Nov. branded cows at the week-end at 13 $\frac{1}{2}$ c; all packers moved a total of 18,400 Nov.-Dec. branded cows mid-week at 14c, the Association selling 1,000 same basis.

A sale of 2,000 native bulls was made at the week-end at 10c, with 300 branded bulls at 9c; one packer sold 500 branded bulls late this week at 9 $\frac{1}{2}$ c.

Final estimate of shoe production for Oct. was 36,924,407 pairs; contrary to the usual seasonal trend, this was an increase of 1.5 percent over Sept. pro-

duction, and 5.5 percent over Oct. 1938. Production for first ten months of 1939 was 8.4 per cent over same period of 1938.

Withdrawals of hides from Exchange warehouses during Nov. totaled 100,087 hides, as against 181,130 during Oct. Further withdrawals of 11,669 hides were made during the first five days of Dec. Stocks in Exchange warehouses on Nov. 30th were down to 996,877 hides, with 17,447 more pending certification; stocks on Oct. 31st were 1,073,086, with 19,131 more pending.

OUTSIDE SMALL PACKER HIDES.—Outside small packer all-weight natives are quotable 13@13 $\frac{1}{2}$ c, selected, depending upon average weight and take-off, brands $\frac{1}{2}$ c less. Several lots running 47 and 48 lb. avge. were reported this week at 13c, selected, Chgo. freight or f.o.b. points east of here, and buyers willing to pay 13 $\frac{1}{2}$ c for lighter average stock; extreme light choice stock is probably salable at 13 $\frac{1}{2}$ c.

PACIFIC COAST.—As previously mentioned, Coast packers moved Nov. hides in a fair way last week at 12 $\frac{1}{2}$ c flat for steers and cows, f.o.b. shipping points. This figure has since been declined.

FOREIGN WET SALTED HIDES.—The broad trade previous week left the South American market fairly closely sold up on rejects and light stock as well as on standard steers. A sale of 8,000 Argentine standard frigorifico steers was reported early this week going to Japan at 93 pesos, equal to 13 $\frac{1}{2}$ c, c.i.f. New York, as against 92 pesos or 13 $\frac{1}{2}$ c paid last week.

COUNTRY HIDES.—There was a fair amount of action in the country market, with demand still centering on light average stock. Untrimmed all-weights around 47 lb. av. are quoted 11 $\frac{1}{2}$ @12c, selected, del'd Chgo., with top closer to market. Heavy steers and cows are not wanted and nominal at 10@10 $\frac{1}{2}$ c, flat, trimmed. Sales of trimmed buff weights were reported at 12 $\frac{1}{2}$ c, with a fair demand. There is a good demand for trimmed extremes, with sales at 14 $\frac{1}{2}$ c, selected, and this figure said to be readily obtainable. Bulls quoted 7 $\frac{1}{2}$ @8c nom. Glues listed 9 $\frac{1}{2}$ @9 $\frac{1}{2}$ c, trimmed. All-weight branded hides quoted 10 $\frac{1}{2}$ @10 $\frac{1}{2}$ c, flat.

CALFSKINS.—Packers obtained an advance of a full cent this week for 20,000 to 25,000 northern heavy calfskins. One packer sold a total of 12,000 Nov.-Dec. northern heavies, 9 $\frac{1}{2}$ /15 lb., at 26c; another packer sold half of Dec. production, and a third packer about 2,500 first half Dec. production northern heavies also at 26c. No recent trading in lights under 9 $\frac{1}{2}$ lb., with market nominal around 25c, and no offerings at the moment.

Trading is awaited to define values on Chgo. city calfskins. Early bids of

21c for 8/10 lb. were later raised to 21 $\frac{1}{2}$ c, with 22c asked; bidding 21 $\frac{1}{2}$ c also for the 10/15 lb., asking 23c. Outside cities, 8/15 lb., nominal at 21 $\frac{1}{2}$ c@22c; straight countries around 15 $\frac{1}{2}$ c@16c flat. Bid of \$1.50 reported for city light calf and deacons.

KIPSKINS.—One packer secured $\frac{1}{2}$ c advance on a lot of 5,500 Nov. northern native kipskins, which moved at 21c; on this basis southern natives are nominal at 20c, with last trading at $\frac{1}{2}$ c less. Over-weights quoted 20c nom. for northerns, southerns a cent less; last actual sales $\frac{1}{2}$ c under these figures. Branded kips last sold at 17 $\frac{1}{2}$ c for Nov.

There is a fair inquiry for city kipskins, with the market quoted nominally around 18 $\frac{1}{2}$ c, or $\frac{1}{2}$ c over last trading price. Outside cities nominal at 18c; straight countries 15@15 $\frac{1}{2}$ c flat.

Another packer moved Nov. production of regular slunks at \$1.10, steady price, cleaning up this market to Dec. 1st.

HORSEHIDES.—Market firm and offerings moderate. Good city renderers, with manes and tails, salable at \$5.20@5.30, selected, f.o.b. nearby sections; ordinary trimmed renderers quoted \$4.90@5.00, del'd Chgo.; mixed city and country lots \$4.50@4.75, Chgo.

SHEEPSKINS.—Market on dry pelts nominal at 18@19c per lb., del'd Chgo. Big packer shearlings are not overly active, due to present light production; market generally quoted \$1.40@1.50 for No. 1's, .95@1.00 for No. 2's, while No. 3's are easy at 50@60c. However, some houses are still delivering on prior sales at \$1.50, \$1.05 and 55c for the three grades. Small packer shearlings quoted one-half to two-thirds big packer values. Pickled skins are quoted around \$6.00 per doz., last paid for Nov. skins; inquiry slow. Packer wool pelts quoted \$2.40@2.50 per cwt. live basis; small packer stock around \$2.25@2.30 per cwt.

New York

PACKER HIDES.—New Jersey and Massachusetts packers were credited with selling 1,400 Nov. butt branded steers this week at 14 $\frac{1}{2}$ c, and 1,400 Nov. Colorados at 14 $\frac{1}{2}$ c. Native steers are quotable at 14 $\frac{1}{2}$ c, in line with the western market. Some earlier trading was done in another direction at 14 $\frac{1}{2}$ c for Oct. native steers, 14c for Nov. butt brands and 13 $\frac{1}{2}$ c for Nov. Colorados.

CALFSKINS.—The calfskin market has been kept fairly closely sold up recently, with evidently some quiet trading going on from time to time. Last reported sales of collector calf were at \$1.80 for 5-7s, \$2.30 for 7-9's and 9-12's quoted \$3.30@3.35 nom. Packer 5-7's are quoted around \$2.25 nom., 7-9's \$2.75@2.80, and 9-12's last sold at \$3.70. One lot of 1,000 packer 17 lb. and up kips sold this week at \$4.85.

CHICAGO HIDE FUTURES

Saturday, Dec. 2.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sales.

Monday, Dec. 4.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sales; unchanged.

Tuesday, Dec. 5.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sales; unchanged.

Wednesday, Dec. 6.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sales; unchanged.

Thursday, Dec. 7.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sales; unchanged.

Friday, Dec. 8.—Close: Dec. 13.85 n; Mar. 14.25 n; June 14.50 n; no sale; closing unchanged.

STOCKS AT 7 MARKETS

Stocks of meat at seven large packing centers on December 1 were about 19 million lbs. greater than on November 1, but, when compared with December 1 a year ago, were surprisingly small in view of the large November hog kill. There were increases in cured meats and freezer stocks, but the total was only 9 million lbs. above December 1, 1938. Total lard stocks were practically the same as a year ago, in spite of much heavier production of lard during the fall and early winter months.

Stocks at Chicago, Kansas City, Omaha, St. Louis, East St. Louis, St. Joseph and Milwaukee on November 30, 1939, with comparisons as compiled by THE NATIONAL PROVISIONER.

Nov. 30, '39 Oct. 31, '39 Nov. 30, '38
lbs. lbs. lbs.

Total S. P. meats	80,901,375	62,731,159	75,896,773
Total D. S. meats	13,237,371	13,529,724	9,536,029
Other cut meats	10,470,880	9,287,597	10,320,486
Total all meats	104,609,626	85,528,480	95,753,288
P. S. lard	40,937,987	36,431,184	46,625,968
Other lard	12,845,921	8,794,064	7,317,509
Total lard	53,783,878	45,225,248	53,943,478
S. P. regular hams	13,444,723	10,582,626	13,783,241
S. P. skinned hams	28,061,300	18,642,492	26,561,407
S. P. bellies	31,323,256	27,560,758	30,441,307
S. P. picnics	7,767,087	5,963,283	5,026,818
D. S. bellies	6,655,416	7,601,788	4,937,895
D. S. fat backs	5,849,955	5,692,936	4,412,134

NOVEMBER INSPECTED KILL

Nearly a million more hogs were slaughtered in November in federally inspected plants than in the same month in 1938 and half a million more than were processed in October this year. Cattle kill was smaller than in October and smaller than in November a year ago by some 20,000 head. Calf kill continued its downward trend and sheep and lamb slaughter, while lower than in October, was slightly higher than last November.

Federally inspected slaughter during November, 1939, with comparisons:

	Nov., 1939.	Oct., 1939.	Nov., 1938.
Cattle	887,311	893,070	858,187
Calves	449,906	481,620	457,299
Sheep and lambs	1,468,801	1,584,615	1,452,956
Hogs	4,436,799	3,545,147	3,913,239

MEAT AND LARD EXPORTS

Exports through port of New York during week ended December 7 were 576,630 lbs. lard, and 463,880 lbs. bacon.

WEEK'S CLOSING MARKETS

FRIDAY'S CLOSING

Provisions

Hog products were quiet and barely steady the latter part of the week, with some reaction in grains, comparatively large hog receipts and barely steady hog markets halting rise. Packer pressure was modest, creating the impression that cash trade was satisfactory.

Cottonseed Oil

Cotton oil was quiet and steady; profit taking and hedging were absorbed; demand halted the downturns, with strength in crude markets. Government placed cotton crop at 11,792,000 bales, or slightly under November and year ago. Crude sold at 5 1/4 c lb. in all sections and bid at mills; held for 6c; Texas seed advanced one dollar to \$27.00.

Quotations on bleachable cottonseed oil at close of market on Friday were: Dec., 6.70@6.80; Jan., 6.76@6.80; March, 6.95; May, 7.05; July, 7.14; 137 lots; closing steady.

Tallow

New York extra tallow quoted at 5 1/2c.

Stearine

Stearine was quoted at 6 1/4 @ 7c.

Friday's Lard Markets

New York, December 8, 1939.—Prices are for export. Lard, prime western, 6.90@7.00c; middle western, 6.90@7.00c; city, 6 1/4 c; refined continent, 7 1/4 @ 7 1/2 c; South American, 7 1/4 @ 7 1/2 c; Brazil kegs, 7 1/4 @ 7 1/2 c; shortening, 9 1/4 c.

NEW YORK HIDE FUTURES

Saturday, Dec. 2.—Close: Dec. 14.42 n; Mar. 14.68@14.70; June 14.99@15.00; Sept. 15.22 n; Dec. (1940) 15.45 n; 71 lots; 3@8 lower.

Monday, Dec. 4.—Close: Dec. 14.37 n; Mar. 14.66@14.68; June 14.94; Sept. 15.17 n; Dec. (1940) 15.38 n; 83 lots; 2@7 lower.

Tuesday, Dec. 5.—Close: Dec. 14.54 n; Mar. 14.81@14.83; June 15.09@15.10; Sept. 15.32 n; Dec. (1940) 15.53 n; 188 lots; 15@17 higher.

Wednesday, Dec. 6.—Close: Dec. 14.80 n; Mar. 15.00; June 15.30; Sept. 15.55 b; Dec. (1940) 15.78 n; 274 lots; 17@26 higher.

Thursday, Dec. 7.—Close: Dec. 14.68 n; Mar. 14.85@14.87; June 15.13; Sept. 15.40 n; Dec. (1940) 15.63 n; 168 lots; 12@17 lower.

Friday, Dec. 8.—Close: Dec. 14.68 n; Mar. 14.88; June 15.10@15.14; September 15.38@15.42; 121 sales; closing 3 higher to 3 lower.

CHICAGO HIDE QUOTATIONS

Quotations on hides at Chicago for the week ended Dec. 8, 1939, with comparisons:

PACKER HIDES.

	Week ended Dec. 8.	Prev. week.	Cor. week, 1938.
Hvy. nat. stra.	@14 1/2	@14	@11 1/2
Hvy. Tex. stra.	@14 1/2 ax	@14	@11 1/2
Hvy. butt brnd'd stra.	@14 1/2	@14	@11 1/2
Hvy. Col. stra.	@14 1/2	@13 1/2	@11 1/2
Ex-light Tex. stra.	@14	@13 1/2 b	@10 1/2
Brnd'd. cows	@14	@13 1/2 b	@10 1/2
Hvy. nat. cows 14	@14 1/2	@14	@10 1/2
Hvy. Tex. cows 14	@14 1/2	@14	@11 1/2
Nat. bulls	@10 1/2	@10	@8 1/2
Brnd'd. bulls	@9 1/2	@9	@7 1/2
Calfskins	28 @26	24 @25	17 1/2 @19
Kips, nat.	@21	@20 1/2	@15 1/2
Kips, ov-wt.	@20n	@19 1/2	@14 1/2
Kips, brnd'd.	17 1/2 @18n	@17 1/2	@13ax
Slunks, reg.	@1.10	@1.10	@.75
Slunks, hrs.	@.65	.65	.45

Light native, butt branded and Colorado steers 1c per lb. less than heavies.

CITY AND OUTSIDE SMALL PACKERS.

Nat. all-wts.	13 @13 1/2	12 1/2 @13 1/2	9 1/2 @10n
Brnd'd.	12 1/2 @13	12 @12 1/2	9 1/2 @9 1/2
Nat. bulls	@9n	@9n	7n
Brnd'd. bulls	@8 1/2	@8 1/2	5 1/2 @6n
Calfskins	21 1/2 @22	20 1/2 @22n	14 1/2 @15 1/2
Kips	@18 1/2	@18n	@13n
Slunks, reg.	@1.00n	@1.00n	@.70n
Slunks, hrs.	@.50n	.50n	.35n

COUNTRY HIDES.

Hvy. steers	10 @10 1/2	10 @10 1/2	7 @7 1/2
Hvy. cows	10 @10 1/2	10 @10 1/2	7 @7 1/2
Bulls	@12 1/2	12 @12 1/2	7 1/2 @8
Extreme	@11 1/2	14 @14 1/2	6 @6 1/2
Bull	7 1/2 @8	7 1/2 @7 1/2	5 1/2 @5 1/2
Calfskins	15 1/2 @16	15 @15	10 @10 1/2
Kipskins	15 @15 1/2	14 1/2 @15	9 1/2 @10 1/2
Horsehides	4.50 @5.30	4.50 @5.25	2.40 @3.10

SHEEPSKINS.

Pkr. shearlgs.	1.40 @1.50n	1.40 @1.50n	70 @7 1/2
Dry pelts	18 @19n	18 @19n	14 @14 1/2

CANADIAN BACON AGREEMENT

Canada will ship approximately 5,000,000 lbs. of bacon to the United Kingdom weekly until October 31, 1940, according to a recent agreement made between the United Kingdom and the Dominion. Washington advises received by the Institute of American Meat Packers quote an official telegram from Ottawa stating that "the Canadian government has reached an agreement with the United Kingdom to ship 40,000 cwt. (112 lbs.) every week, at \$20.18 f.o.b. Canadian seaboard until October 31, 1940. The United Kingdom is willing to take up to 50,000 cwt. weekly. Shipments may be of any grade or size of bacon, ham or cuts, including frozen. The price applies to any size of Grade A (top grade) Wiltshire sides. A Canadian bacon board is being created to control shipments and to fix prices in Canada seasonably."

ARGENTINE BEEF EXPORTS

Cable reports of Argentine exports of beef this week up to December 8, 1939: To the United Kingdom 43,780 quarters; to the Continent, none. A week ago, to the United Kingdom, 134,320 quarters; to the Continent 38,074.

With profound sorrow, we announce the death on December 2nd, 1939, of our president

MR. FRANK F. KASTEN

*In accordance with his wishes, we shall continue
to serve our customers to the best of our ability.*

The Afral Corporation, 601 West 26th Street, New York City, N. Y.

Refrigeration Lesson

(Continued from page 25.)

11.—Volume of ammonia delivered to the compressor per minute for a standard ton of commercial refrigeration.

Use Chart No. 7. Enter at base at 154 lbs. discharge pressure and follow line up to suction pressure line of 20 lbs., then go horizontally to right and read 3.4 cu. ft. per minute per ton.

12.—Horsepower required per ton of refrigeration.

As determined from answer No. 6, 99.5 B.t.u. was the thermal equivalent of work of compressor per pound of ammonia circulated per minute. Number of pounds of ammonia circulated per ton of refrigeration was .422. Multiply these two quantities and then multiply the result by .0235, a constant, to obtain the horsepower per ton:

$$\begin{aligned} \text{H.P./ton} &= 99.5 \times .422 \times .0235 = .989 \\ .0235 &= .46 \text{ B.t.u./ft. lb.} \\ &33,000 \text{ ft. lbs./min.} \end{aligned}$$

QUESTIONS

1.—How many pounds of ammonia are evaporated per minute per ton of refrigeration if suction pressure is 20 lbs. and discharge pressure is 172 lbs.?

ANSWER.—Evaporation is .428 lbs. per ton per minute.

2.—Under above conditions, the liquid is sub-cooled to a temperature of 75 degs. F. before the expansion valve. Calculate weight and number of cubic feet of ammonia to be evaporated per

minute for one ton of refrigeration.

ANSWER.—Weight is .41 lbs. per ton per minute. Volume is 3.308 cu. ft. per ton per minute.

3.—Assume a suction temperature of 15 degs. and a discharge temperature of 90 degs. Calculate all problems, 1 to 10.

EDITOR'S NOTE.—Consideration of the ammonia compressor will be started in lesson 46.

FINANCIAL NOTES

Board of directors of Armour and Company have declared a quarterly dividend of \$1.75 on the guaranteed preferred stock of Armour and Company of Delaware, payable January 2 to shareholders of record December 12.

Directors of First National Stores have declared a quarterly dividend of 62½c on the common stock, payable January 2 to shareholders of record December 15.

PERISHABLE FREIGHT HEARING

Charges for use of refrigerator cars equipped with mechanical air circulating devices and handling shipments under icing, refrigeration, and ventilation during the winter season are among topics to be discussed at the next shippers' public hearing of the National Perishable Freight Committee, at 10 a.m., December 13, Union Station, Chicago.

PACKER AND FOOD STOCKS

Price ranges of listed stocks, December 6, 1939, or nearest previous date:

	Sales.	High.	Low.	—Close—	
Week ended	Dec. 6.	Dec. 6.	Dec.	Nov.	
Amal. Leather.	8,300	2½%	2½%	2½%	
Do. Pfd.	500	16½%	16	16½%	17
Amer. H. & L.	4,500	6½%	5½%	6½%	5½%
Do. Pfd.	1,000	35	34½%	35	32½%
Amer. Stores	1,600	12½%	12½%	12½%	12½%
Armour III	10,250	6	5½%	6	5½%
Do. Pr. Pfd.	700	48	48	48	48
Do. Pfd.	—	—	—	60	—
Do. Del. Pfd.	900	104½%	104½%	104½%	104½%
Beechnut Pack.	200	123	123	123	120½%
Bohack, H. C.	100	2%	2%	2%	3
Do. Pfd.	90	26	26	26	28½%
Chick. Co. Oil.	1,000	10½%	10½%	10½%	11
Cudahy Co.	2,100	5½%	5½%	5½%	5½%
Cudahy Pack.	1,800	13½%	12½%	13½%	15
Do. Pfd.	80	60	60	60	64
First Nat. Strs.	1,400	47	46½%	46½%	47½%
Gen. Foods	6,000	46½%	46½%	46½%	49½%
Do. Pfd.	—	—	—	—	11½%
Gidden Co.	1,800	18½%	18½%	18½%	17½%
Goldilocks Co.	2,300	40	40	40	38½%
Gr. A&P 1st Pfd.	100	133	133	133	133½%
Do. New	250	109	109	109	109½%
Hormel, G. A.	100	29½%	29½%	29½%	31
Hygrade Food.	300	2½%	2½%	2½%	2½%
Kroger, G. & B.	4,525	28½%	28½%	28½%	28½%
Libby McNeill.	2,900	5½%	5½%	5½%	5½%
Mickelberry Co.	450	3½%	3½%	3½%	3½%
M. & H. Pfd.	80	3%	3%	3%	3%
Morrell & Co.	—	—	—	—	45½%
Nat. Tea	2,000	3½%	3½%	3½%	3½%
Proc. & Gamb.	3,000	63½%	63½%	63½%	63½%
Do. Pfd.	200	118½%	118½%	118½%	117
Rath Pack.	300	42½%	42½%	42½%	40½%
Rathway Strs.	9,400	47½%	47½%	47½%	49½%
Do. 5% Pfd.	350	103	102½%	102½%	108
Do. 6% Pfd.	10	113½%	113½%	113½%	111½%
Do. 7% Pfd.	30	114½%	113½%	113½%	114
Stahl Meyer	—	—	—	—	2
Swift & Co.	3,600	20%	20%	20%	21½%
Do. Int'l.	4,450	30%	30%	30%	30
Trunz Pork	—	—	—	—	8
U. S. Leather	400	6%	6%	6%	6½%
Do. A	1,900	10%	10%	10%	10
Do. Pr. Pfd.	200	61	60	60	61
United Stk. Yds.	—	—	—	—	2½%
Do. Pfd.	1,000	7	7	7	7½%
Wesson Oil	2,000	21½%	21½%	21½%	21
Do. Pfd.	300	64½%	64½%	64½%	63½%
Wilson & Co.	4,900	5%	5½%	5½%	5½%
Do. Pfd.	500	56	56	56	58

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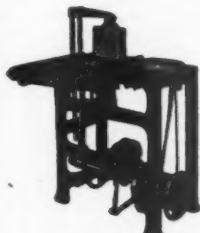
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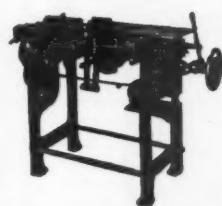
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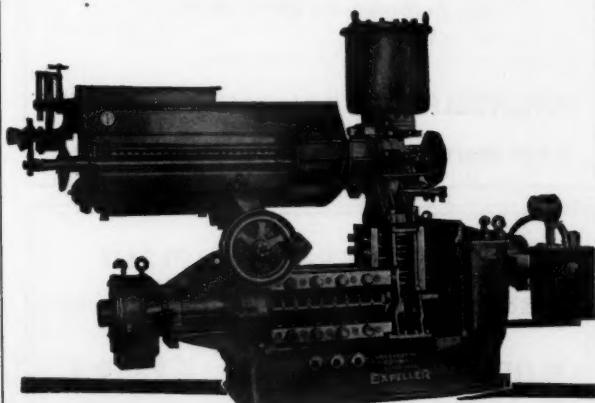


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Jamison, Stevenson, and Victor Doors

JAMISON
BUILT DOORS

GIRARD PACKING PLANT
featured in this issue, uses JAMISON doors

At Girard Packing Company PHILADELPHIA TRAMRAIL COMPANY'S

Overhead Flat Rail Track Insures
EFFICIENCY • ECONOMY • SPEED
In Moving and Storing Meats

WRITE FOR CATALOGUE FR-37

PHILADELPHIA TRAMRAIL COMPANY
3420 North Weikel Street, Philadelphia, Pa.

THE GIRARD PACKING PLANT
described in this issue was designed by
MORRIS FRUCHTBAUM, C.E., R.E.
PACKING HOUSE ENGINEER — ARCHITECT

SUITE 200—WOOD BUILDING
400 CHESTNUT STREET PHILADELPHIA, PA.

NATIONAL AIROIL BURNER COMPANY

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JOSEPH R. FARRELL
Building Construction

4422 MARKET STREET
PHILADELPHIA

Builders of Girard Packing Plant

New Girard Plant

(Continued from page 14.)

ered, it was determined in this case that copper coils compare very favorably in first cost with black iron or steel. Their life is expected to be considerably longer.

Tree washer is constructed on same principle as vapor cooker, but is equipped with overhead perforated copper tubing and a pump so that hot wash water may be sprayed over trees. An alkali is used in the water to "cut" the grease. Coils of copper tubing have been installed here. Copper tubing is also used in shower and for all brine lines.

Bake oven holds two cages. It is of special Gehring design, being equipped with two fans and has the heating coils at the rear. Special cages with tops and bottoms of galvanized sheet iron are used to direct heated air over the product and return it over the steam coils for reheating. This type of oven was first employed in meat packing in the plant of the Colonial Provision Co., Boston, where it has given very satisfactory results. The special design is expected to increase its ability to produce well finished, uniform products in the minimum of cooking time.

Plant Capacity

Capacity of the plant has yet to be determined. It is estimated conservatively, however, to be somewhere in the neighborhood of 700,000 lbs. weekly, and is probably somewhat greater. Hams, bacon, corned and dried beef, cured meats, sausage, meat loaves and ready-to-eat specialties will be produced. Fresh meats and probably canned meats, cheese and other food products will be handled.

The company has a fleet of 11 trucks—Brockways, Dodges and Chevrolets—on which stake and insulated panel bodies are mounted. The latter are equipped with Ice Fin cooling units.

The Girard Packing Co. is a newcomer in the industry, but its officers

have had long experience in the meat packing field. Abe Rabinowitz, president, has been associated with the industry since 1901. The plant is government inspected and will serve Pennsylvania, New Jersey, Maryland and Delaware.

Colonial Provision Co., Boston, Mass., holds a substantial stock interest in the new company and its president, Sidney Rabinowitz, acted in an advisory capacity to the Girard executives during

Many Features to be Described Later

THERE are many other interesting and important features of design, construction and equipment in the Girard plant which cannot be mentioned here because of space limitations. Some of the innovations described only briefly will be covered in greater detail in future issues of THE NATIONAL PROVISIONER. Others not mentioned, including a loaf pan washer and sterilizer, an employee's locker of new design, a brine maker, etc., will be described and illustrated at later dates.

design and construction of the building.

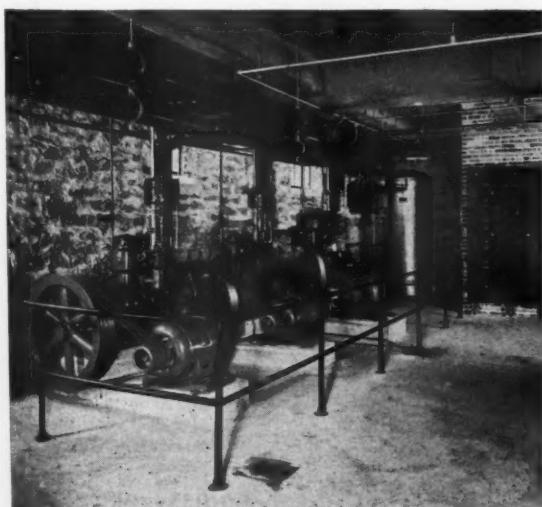
Officers of the Girard Packing Co. are Abe Rabinowitz, president; Irving Rabinowitz, secretary; William Rabinowitz, treasurer; Henry Jensen, plant superintendent; E. Jackson, sales manager, and K. Taylor, comptroller.

The plant was designed by Morris Fruchtbau, architect and engineer of Philadelphia, who is well known in the industry as the designer of the plants of the Colonial Provision Co. and Peter Eckrich Sons Co., Kalamazoo, Mich. Most of the innovations in plant design, construction and equipment described herewith, and those to be discussed in future issues of THE NATIONAL PROVISIONER, have been developed by Mr. Fruchtbau.

A list of the more important equipment installed and its manufacturers will be found in the right-hand column of this page.

COMPRESSOR ROOM

One 6½-in. by 6½-in. and two 5-in. by 5-in. ammonia compressors equipped for automatic operation are installed here. All cooling is done by means of dry coil unit coolers.



The National Provisioner—December 9, 1939

Equipment Manufacturers

Ammonia compressors: One 6½-in. by 6½-in. and two 5-in. by 5-in. verticals.—York Ice Machinery Corp.

Unit coolers of dry coil type.—York Ice Machinery Corp.

Boiler of 150-h.p., Scotch marine type, oil-fired.—Bigelow Co.

Oil burner.—National Airoil Burner Co.

Sausage machinery: One Model 4A, 1,000-lb. capacity mixer with stainless steel tub, three 400-lb. capacity air stuffers, two casing applicators, one Model 70B grinder rated at 800 lbs. per hour, and one ice crusher.—John E. Smith's Sons Co.

Meat grinder.—Enterprise Mfg. Co.

Bacon slicer.—Link-Belt Co.

Cooler doors of special design, equipped with metal plates and spindle guards.—Jamison Cold Storage Door Co.

Overhead rails.—Philadelphia Tram-rail Co.

Air-conditioned smokehouses.—Installed by C. J. Cox Engineering Co.

Smokehouse fans.—Clarage Fan Co.

Smokehouse controls of air-operated, controlling-recording type.—Powers Regulator Co.

Smokehouse air and smoke distributors.—Anemostat Corp. of America.

Smoke generator, stoker-operated.—John E. Smith's Sons Co.

Bake oven of special design.—Gehring Corp.

Cooler insulation.—Mundet Cork Co.

Pipe insulation.—Johns-Manville Corp.

Elevator.—Atlantic Elevator Co.

Valves.—Crane Co.

Motors.—Century Electric Co. and Continental Electric Co.

Pumps.—Goulds Pumps Inc.

Floor brick.—Hanley Co.

Glass building blocks.—Owens-Illinois Glass Co.

Lighting fixtures.—Westinghouse Electric & Mfg. Co.

Unit heaters of suspended type.—Fedders Manufacturing Co., Inc.

Stuffing and conveying tables.—Architectural Steel Engineering Co., Inc.

Ham and sausage trees.—Standard Pressed Steel Co.

Cooking tanks.—Standard Pressed Steel Co.

Lift trucks.—Yale and Towne Mfg. Co.

Plumbing fixtures.—Standard Sanitary Mfg. Co.

THE NEW BOOK

"Plant Layout"—This important subject is discussed in THE NATIONAL PROVISIONER's authoritative operating handbook, "Sausage and Meat Specialties."

LIVESTOCK MARKETS

Weekly Review

International Show Blue Ribbon Winners

CARLOT entries of fat cattle, hogs and sheep at the International Livestock Exposition at Chicago totaled 439. The largest number of entries was in the fat cattle section with 292 carloads. These were sifted until approximately 100 loads competed for honors. Of the 292 loads, 190 were Herefords, 83 were Angus and 19 Shorthorns. Packer buyers judged the entries and Schmidt Bros., Delmar, Ia., won grand championship honors with 15 head of mediumweight Aberdeen-Angus steers.

Thomas E. Wilson, chairman of the board of Wilson & Co., won the Short-horn division carlot championship with a load of steers from his Earlham, Ia., farm. Mr. Wilson's farm manager, B. G. Harris, stated that this was only the second year of competition in the carlot contest and that all three loads brought in placed in the prize money.

Carlot Hogs Light

Berkshires took top honors in the carlot swine show. Of the five loads shown, four were prize winners. It was the first time since 1924 that the breed has won top honors in this division. They were exhibited by George Hoffman of Ida Grove, Ia. The hogs averaged 225 lbs. in weight and were the lightest of any champions on record.

Canadian Southdowns were again winners—for the sixth time—in the carlot lamb division. W. J. Brodie of Ontario, Canada, won each of these six awards. The lambs averaged a little over 90 lbs. in weight. They were uniform, had good shoulders, well-sprung ribs, thick loins and exceptionally good legs, the judges decided.

Both the grand champion steer of the show and the reserve champion were

Texas Herefords. The champion, "Lucky Boy 2d," was an 18-month old grade Hereford steer weighing 1,240 lbs. He was fed and exhibited by Mayfield Kothmann, Mason, Tex., an 18-year old 4-H club boy. The reserve champion, "Texas State Fair," a 17-month old purebred Hereford weighing 1,072 lbs., was exhibited by its owner, Jack Baker of Bluff Dale, Tex.

A 4-H club boy, Roger Amsler, Rensselaer, Ind., exhibited the grand champion hog of the show. This was a 300-lb. Hampshire barrow. The champion pen of three consisted of Chester Whites, weighing 250, 255 and 260 lbs., all from the same litter.

Southdowns Win Again

Southdowns carried off the purple in the sheep show. The grand champion was a 104-lb. short, thick, and deep wether, which was bred, fed and exhibited by Pennsylvania State College. The reserve champion, also a Southdown of high quality, was exhibited by Purdue University.

Pfaelzer Bros., Chicago, bought the grand champion steer sold at auction on Thursday, paying \$1.35 per lb. The reserve champion sold to a Chicago night club, the Chez Paree, at 50c per lb. The grand champion carload of 15 mediumweight Angus steers was bought by Swift & Company at \$23.00 per cwt. for the account of Cudney & Co. Illinois Packing Co. took a load of the prize Thomas E. Wilson Shorthorns at \$12.25 per cwt. The grand champion carload of lambs from Ontario, Canada, also brought \$23.00 per cwt. and was purchased by Swift & Company. Armour bought the first prize native lambs at \$18.75 per cwt.

MORE LIVESTOCK NEWS will be found on page 48.

Packers Spend More and Get More Meat

PACKERS paid \$136,000,000 for livestock slaughtered under federal inspection during October, which was \$5,000,000 more than payments in October a year ago. The increase in cost of livestock was largely due to greater expenditures for cattle, for which \$6,000,000 more was paid than last October. Calves cost approximately the same amount, hogs, \$2,000,000 less, and sheep and lambs cost \$1,000,000 more. Total expenditures covered considerably more animals of all classes except sheep.

Average live costs in October were:

	Oct. 1939	Oct. 1938	5-yr. avg.
Cattle	\$7.35	\$6.95	\$5.80
Calves	8.01	7.80	6.62
Hogs	6.84	7.87	8.42
Sheep and lambs	8.23	7.28	7.50
Steers	9.18	9.55	....

Volume of meat and lard produced in October, by classes, was as follows:

	Oct. 1939 lbs.	Oct. 1938 lbs.	5-yr. Oct. avg., lbs.
Beef	444,000,000	423,000,000	469,000,000
Veal	55,000,000	54,000,000	62,000,000
Pork and lard	601,000,000	582,000,000	491,000,000
Lamb and mutton	62,000,000	63,000,000	64,000,000
Total	1,162,000,000	1,073,000,000	1,087,000,000
Lard	94,000,000	91,000,000	75,000,000

Owing to the high percentage of good cattle included in the month's receipts, the average dressed weight of all cattle was 500.08 lbs. A year ago the average was 481.63 lbs. and the 5-year average was 469.40 lbs. Average weight of calves was about the same as a year ago at 115.50 lbs. and 2 lbs. under the average period. Hogs averaged 169.74 lbs. dressed weight against 160.92 lbs. in October, 1938, and 161.99 lbs. in the average period. Average dressed weight of sheep and lambs was 39.33 lbs.



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Come to "Headquarters" for packing house textile needs. Bemis is noted for high quality, prompt service and "right" prices.

CORN BELT DIRECT TRADING

(Reported by U. S. Bureau of Agricultural Economics.)

Des Moines, Ia., December 7, 1939.—At 16 concentration points and 10 packing plants in Iowa and Minnesota trade undertone was slow, but first four days receipts of 192,200 were a near record for that period. Quotations were quite uneven compared to last week's close, ranging individually from 10c lower to 10c higher.

Current prices, good to choice, 180-220-lb., \$5.00@5.40; the latter top quite sparingly; bulk delivered at plants, \$5.10@5.20, and at yards \$5.00@5.10; 220-240-lb., \$4.90@5.10; 240-270-lb., \$4.80@5.05; 270-300-lb., \$4.65@4.95; 300-330-lb., \$4.55@4.80; 330-360-lb., \$4.40@4.70; a few 160-180-lb., \$4.60@5.20. Sows, 330-lb. down, \$4.35@4.80, mostly \$4.45@4.70 at plants; 330-400-lb., \$4.25@4.55; 400-500-lb., \$4.00@4.40.

Receipts at Corn Belt markets for week ended December 7:

	This week.	Last week.
Friday, Dec. 1	30,400	36,000
Saturday, Dec. 2	45,800	36,100
Monday, Dec. 4	68,500	55,500
Tuesday, Dec. 5	43,500	44,900
Wednesday, Dec. 6	40,300	40,700
Thursday, Dec. 7	41,900	44,200

WEEKLY INSPECTED KILL

Number of animals processed in selected centers for the week ended December 1, with comparisons:

	Cattle	Calves	Hogs	Sheep
New York area ¹	9,366	11,842	50,583	61,813
Phila. & Balt. ²	3,456	1,223	33,813	2,739
Ohio-Indiana group ³	9,182	3,475	56,305	9,148
Chicago	26,909	5,171	139,277	49,820
St. Louis area ⁴	12,621	8,760	72,861	14,568
Kansas City	18,211	5,079	52,886	19,667
Southwest group ⁵	15,981	6,391	44,271	25,260
Omaha	12,348	1,107	47,908	19,546
Sioux City	5,456	314	40,661	14,006
St. Paul-Wisc. ⁶	15,948	18,844	102,531	20,166
Interior Iowa & So. Minn. ⁷	13,357	6,142	188,215	37,482
Total	137,885	67,855	809,311	274,238
Total prev. week	119,559	72,378	774,069	218,536
Total last year	120,127	80,401	825,083	326,532

¹ Includes New York City, Newark, and Jersey City. ² Includes Cincinnati and Cleveland, Ohio, and Indianapolis, Ind. ³ Includes National Stockyards and East St. Louis, Ill., and St. Louis, Mo. ⁴ Includes St. Joseph, Wichita, Oklahoma City, and Ft. Worth. ⁵ Includes St. Paul, Minn., Madison, and Milwaukee, Wisconsin. ⁶ Includes Albert Lea and Austin, Minn., and Cedar Rapids, Des Moines, Ft. Dodge, Mason City, Marshalltown, Ottumwa, Storm Lake, and Waterloo, Iowa.

RECEIPTS AT CHIEF CENTERS

Receipts for week ended Dec. 2:

At 20 markets:	Cattle	Hogs	Sheep
Week ended Dec. 2	187,000	473,000	220,000
Previous week	206,000	421,000	213,000
1938	206,000	461,000	254,000
1937	230,000	373,000	264,000
1936	268,000	670,000	317,000

At 11 markets:	Hogs
Week ended Dec. 2	420,000
Previous week	363,000
1938	390,000
1937	317,000
1936	590,000
1935	333,000

At 7 markets:	Cattle	Hogs	Sheep
Week ended Dec. 2	187,000	347,000	157,000
Previous week	127,000	317,000	142,000
1938	129,000	314,000	160,000
1937	156,000	259,000	160,000
1936	188,000	511,000	186,000
1935	180,000	281,000	175,000

LIVESTOCK PRICES AT LEADING MARKETS

Livestock prices at five leading Western markets, Thursday, December 7, 1939, as reported by the U. S. Agricultural Marketing Service.

Hogs (soft & oily not quoted). CHICAGO. NAT. STK. YDS. OMAHA. KANS. CITY. ST. PAUL.

BARROWS AND GILTS:

Good-choice:

120-140 lbs.	\$ 5.10 @ 5.50	\$ 4.90 @ 5.30	\$ 4.85 @ 5.20	\$ 5.10 @ 5.50	\$ 5.25 @ 5.50
140-160 lbs.	\$ 5.40 @ 5.65	\$ 5.20 @ 5.60	\$ 4.85 @ 5.20	\$ 5.10 @ 5.50	\$ 5.35 only
160-180 lbs.	\$ 5.50 @ 5.75	\$ 5.30 @ 5.60	\$ 5.15 @ 5.30	\$ 5.20 @ 5.40	\$ 5.35 only
180-200 lbs.	\$ 5.55 @ 5.75	\$ 5.50 @ 5.60	\$ 5.25 @ 5.35	\$ 5.25 @ 5.40	\$ 5.35 only
200-220 lbs.	\$ 5.55 @ 5.75	\$ 5.50 @ 5.60	\$ 5.30 @ 5.35	\$ 5.25 @ 5.40	\$ 5.35 only
220-240 lbs.	\$ 5.55 @ 5.75	\$ 5.50 @ 5.60	\$ 5.25 @ 5.35	\$ 5.25 @ 5.40	\$ 5.35 only
240-270 lbs.	\$ 5.35 @ 5.65	\$ 5.20 @ 5.50	\$ 5.25 @ 5.35	\$ 5.25 @ 5.35	\$ 5.25 @ 5.35
270-300 lbs.	\$ 5.25 @ 5.45	\$ 5.05 @ 5.30	\$ 5.20 @ 5.25	\$ 5.15 @ 5.30	\$ 5.35 @ 4.90
300-330 lbs.	\$ 5.15 @ 5.30	\$ 5.00 @ 5.15	\$ 5.10 @ 5.20	\$ 5.00 @ 5.20	\$ 4.65 @ 4.90
330-360 lbs.	\$ 5.00 @ 5.20	\$ 4.90 @ 5.10	\$ 5.00 @ 5.10	\$ 4.90 @ 5.10	\$ 4.55 @ 4.70

Medium:

160-220 lbs.	\$ 5.10 @ 5.50	\$ 4.60 @ 5.50	\$ 4.90 @ 5.20	\$ 4.90 @ 5.30	\$ 4.90 @ 5.20
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BOWS:

Good and choice:

270-300 lbs.	\$ 5.10 @ 5.20	\$ 4.85 @ 5.00	\$ 4.65 @ 4.75	\$ 4.70 @ 4.85	\$ 4.45 only
300-330 lbs.	\$ 5.00 @ 5.15	\$ 4.85 @ 5.00	\$ 4.65 @ 4.75	\$ 4.70 @ 4.85	\$ 4.45 only
330-360 lbs.	\$ 4.95 @ 5.10	\$ 4.75 @ 4.95	\$ 4.50 @ 4.65	\$ 4.60 @ 4.75	\$ 4.35 @ 4.45

Good:

360-400 lbs.	\$ 4.90 @ 5.05	\$ 4.60 @ 4.85	\$ 4.50 @ 4.60	\$ 4.55 @ 4.65	\$ 4.35 @ 4.45
400-450 lbs.	\$ 4.80 @ 5.00	\$ 4.55 @ 4.75	\$ 4.50 @ 4.60	\$ 4.50 @ 4.60	\$ 4.25 @ 4.35
450-500 lbs.	\$ 4.65 @ 4.90	\$ 4.50 @ 4.65	\$ 4.40 @ 4.50	\$ 4.30 @ 4.50	\$ 4.25 only

Medium:

250-300 lbs.	\$ 4.40 @ 4.90	\$ 4.25 @ 4.65	\$ 4.35 @ 4.50	\$ 4.25 @ 4.65	\$ 4.10 @ 4.85
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PIGS (Slaughter):

Medium and good, 90-120 lbs.	4.60 @ 5.35	4.25 @ 5.00	5.25 @ 5.50
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Slaughter Cattle, Vealers and Calves:

STEERS, choice:

900-1100 lbs.	10.50 @ 11.25	10.00 @ 11.00	9.75 @ 10.90	9.75 @ 11.00	9.25 @ 10.75
750-900 lbs.	10.75 @ 11.25	10.25 @ 11.00	10.25 @ 10.90	10.25 @ 11.00	9.75 @ 10.75
1100-1300 lbs.	10.00 @ 11.00	9.75 @ 10.75	9.25 @ 10.60	9.25 @ 10.50	9.00 @ 10.25
1300-1500 lbs.	9.75 @ 10.75	9.25 @ 10.25	9.00 @ 10.25	9.25 @ 10.25	9.00 @ 10.00

STEERS, good:

750-900 lbs.	9.75 @ 9.75	9.00 @ 10.25	8.90 @ 10.25	8.50 @ 10.25	8.75 @ 9.75
900-1100 lbs.	9.50 @ 10.50	8.75 @ 10.25	8.75 @ 10.00	8.50 @ 10.25	8.25 @ 9.75
1100-1300 lbs.	9.00 @ 10.00	8.50 @ 9.75	8.25 @ 9.50	8.25 @ 9.75	8.25 @ 9.25
1300-1500 lbs.	8.50 @ 9.75	8.25 @ 9.25	8.00 @ 9.25	8.25 @ 9.25	8.25 @ 9.00

STEERS, medium:

750-1100 lbs.	7.75 @ 9.25	7.25 @ 8.75	7.25 @ 8.25	7.25 @ 8.25	7.50 @ 8.75
1100-1300 lbs.	7.25 @ 8.50	7.50 @ 8.50	7.25 @ 8.25	7.25 @ 8.25	7.25 @ 8.25

STEERS, common:

750-1100 lbs.	6.50 @ 7.50	6.25 @ 7.50	6.25 @ 7.50	6.50 @ 7.25	6.25 @ 7.50
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STEERS, HEIFERS AND MIXED:

Choice, 500-750 lbs.	10.25 @ 11.00	10.25 @ 11.25	9.75 @ 10.75	9.75 @ 10.75	9.75 @ 10.50
Good, 500-750 lbs.	9.00 @ 10.25	9.00 @ 10.25	8.25 @ 9.75	8.25 @ 9.75	8.50 @ 9.50

HEIFERS:

Choice, 750-900 lbs.	10.25 @ 11.00	10.25 @ 11.25	9.75 @ 10.75	9.75 @ 10.75	9.75 @ 10.25
Good, 750-900 lbs.	9.00 @ 10.25	9.00 @ 10.25	8.25 @ 9.75	8.25 @ 9.75	8.50 @ 9.50
Medium, 500-900 lbs.	7.50 @ 9.00	7.50 @ 9.00	7.25 @ 8.25	7.00 @ 8.25	7.00 @ 8.50
Common, 500-900 lbs.	6.00 @ 7.50	6.25 @ 7.50	6.00 @ 7.25	6.00 @ 7.25	5.75 @ 7.00

COWS, all weights:

Good	6.25 @ 7.00	6.00 @ 7.25	6.00 @ 6.75	6.00 @ 6.75	6.00 @ 6.75
Medium	5.75 @ 6.25	5.00 @ 6.00	5.25 @ 6.00	5.35 @ 6.00	5.50 @ 6.00
Cutter and common	4.50 @ 5.75	4.50 @ 5.00	4.50 @ 5.25	4.50 @ 5.35	4.25 @ 5.50
Canner (low cutter)</					

PACKERS' PURCHASES

Purchases of livestock by packers at principal centers for the week ending Saturday, December 2, 1939, as reported to The National Provisioner:

CHICAGO.

Armour and Company, 7,550 hogs; Swift & Company, 7,757 hogs; Wilson & Co., 6,719 hogs; Western Packing Co., Inc., 2,390 hogs; Agar Packing Co., 5,975 hogs; Shippers, 10,173 hogs; Others, 30,021 hogs.

Total: 37,340 cattle; 4,521 calves; 70,585 hogs; 47,782 sheep.

KANSAS CITY.

	Cattle	Calves	Hogs	Sheep
Armour and Company	2,807	593	3,638	4,022
Cudahy Pkg. Co.	2,014	649	1,790	4,020
Swift & Company	2,046	686	2,577	3,812
Wilson & Co.	1,346	582	1,999	3,083
Ind. Pkg. Co.	.....	.....	206	.....
Korblum Pkg. Co.	897	.....	.....	.....
Others	3,695	100	2,798	519
Total	12,805	2,610	13,007	15,456

OMAHA.

	Cattle and Calves	Hogs	Sheep
Armour and Company	4,126	8,885	3,641
Cudahy Pkg. Co.	3,292	5,721	4,815
Swift & Company	3,052	4,045	1,818
Wilson & Co.	1,414	3,304	1,485
Others	.....	8,634	.....
Cattle and calves: Eagle Pkg. Co., 14; Greater Omaha Pkg. Co., 78; Geo. Hoffmann, 5; Lewis Pkg. Co., 504; Nebraska Beef Co., 586; Omaha Pkg. Co., 167; John Roth, 88; South Omaha Pkg. Co., 316; American Pkg. Co., 35; Lincoln Pkg. Co., 191.			
Total	25,752	cattle and calves; 30,589 hogs; 11,759 sheep.	

EAST ST. LOUIS.

	Cattle	Calves	Hogs	Sheep
Armour and Company	2,996	1,617	7,582	4,850
Swift & Company	3,672	2,120	9,117	4,133
Hunter Pkg. Co.	1,550	421	5,828	1,155
Heil Pkg. Co.	.....	.....	2,721	.....
Krey Pkg. Co.	.....	.....	6,650	.....
Laclede Pkg. Co.	.....	.....	2,671	.....
Siebold Pkg. Co.	.....	2,079	.....	.....
Shippers	5,147	2,011	19,059	1,285
Others	3,100	129	3,290	837
Total	16,774	6,298	58,405	12,260
Not including 1,622 cattle, 3,735 calves, 31,420 hogs and 3,021 sheep bought direct.				

ST. JOSEPH.

	Cattle	Calves	Hogs	Sheep
Swift & Company	2,359	375	11,386	10,275
Armour and Company	2,522	396	9,764	3,116
Others	1,000	5	1,173	186
Total	5,881	776	22,323	13,576
Not including 1,981 hogs and 1,824 sheep bought direct.				

BIAU CITY.

	Cattle	Calves	Hogs	Sheep
Cudahy Pkg. Co.	1,972	90	10,089	3,480
Armour and Company	1,904	64	10,463	3,355
Swift & Company	1,455	75	6,144	2,919
Shippers	2,170	89	2,777	106
Others	194	20	82	.....
Total	7,695	338	29,505	9,869

	Cattle	Calves	Hogs	Sheep
Armour and Company	1,909	727	2,442	1,437
Wilson & Co.	1,797	723	2,537	890
Others	255	29	1,545	2
Total	3,961	1,479	6,524	2,329
Not including 15 cattle and 522 hogs bought direct.				

FT. WORTH.

	Cattle	Calves	Hogs	Sheep
Armour and Company	1,884	989	2,093	2,774
Swift & Company	1,844	1,756	1,359	3,054
Blue Bonnet Pkg. Co.	91	31	145	.....
City Pkg. Co.	135	11	464	.....
Rosenthal Pkg. Co.	48	5	211	13
Total	4,002	2,792	4,272	5,841

MILWAUKEE.

	Cattle	Calves	Hogs	Sheep
Plankinton Pkg. Co.	1,457	3,526	10,774	1,101
Swift & Co., Balt.	300	100	107	.....
Armour and Company	730	1,714	.....	.....
Shippers	45	12	51	2
Others	859	600	92	227
Total	3,091	5,832	11,084	1,330

ST. PAUL.

	Cattle	Calves	Hogs	Sheep
Armour and Company	1,632	1,610	23,203	4,685
Rifkin Pkg. Co.	491	22	1,359	.....
Swift & Company	3,221	3,299	28,674	7,254
United Pkg. Co.	1,757	202	.....	.....
Cudahy Pkg. Co.	672	1,316	.....	.....
Others	1,444	325	.....	.....
Total	9,217	6,774	51,877	11,939

WICHITA.

	Cattle	Calves	Hogs	Sheep
Cudahy Pkg. Co.	1,361	1,081	4,124	1,600
Dold Pkg. Co.	780	287	1,024	75
Wichita D. B. Co.	7	.....	.....	.....
Dunn Osterba	27	.....	54	.....
Fred W.	90	.....	489	.....
Sunflower Pkg. Co.	21	.....	144	.....
Keefe Pkg. Co.	66	.....	.....	.....
Interstate Pkg. Co.	293	.....	.....	.....
Total	2,651	1,363	5,836	1,675
Not including 46 cattle and 2,053 hogs bought direct.				

DENVER.

	Cattle	Calves	Hogs	Sheep
Armour and Company	634	136	1,269	2,583
Swift & Company	713	187	1,538	978
Cudahy Pkg. Co.	645	121	1,231	1,674
Others	986	169	1,211	1,878
Total	2,978	613	5,249	7,113

INDIANAPOLIS.

	Cattle	Calves	Hogs	Sheep
Kingan & Co.	1,831	523	26,438	3,460
Armour and Company	955	201	2,804	.....
Hilgemeier Bros.	9	.....	950	.....
Stump Bros.	.....	.....	327	.....
Meier Pkg. Co.	75	.....	451	.....
St. Louis Wetzal	255	29	22	.....
Wabnitz and Deters	46	65	284	43
Maase Hartman Co.	51	10	.....	.....
Shipper	1,150	1,878	22,385	9,146
Others	1,014	452	290	608
Total	6,356	8,153	54,067	13,257

CINCINNATI.

	Cattle	Calves	Hogs	Sheep
S. W. Gall's Sons	440	25	208	.....
E. Kahn's Sons Co.	440	241	6,811	1,433
Lohrey Packing Co.	3	.....	.....	.....
H. H. Meyer Pkg. Co.	12	.....	4,289	.....
J. F. Schlaeter's Sons	159	92	62	.....
J. & F. Schroth P. Co.	14	.....	3,608	.....
J. F. Stegner Co.	399	314	33	.....
Shipper	110	220	3,582	822
Others	1,934	623	980	266
Total	3,071	1,515	19,567	2,824

RECAPITULATION.†

CATTLE.

	Week ended	Cor. week,	Dec. 2.	Prev. week,	Dec. 1.
Chicago	37,340	28,406	2,948	20,566	19,398
Kansas City	12,508	12,172	16,579	21,169	16,796
Omaha*	25,752	15,606	20,566	20,566	19,398
East St. Louis	16,774	15,954	4,371	5,965	5,965
St. Joseph	5,881	5,954	9,822	9,822	9,822
Oklahoma City	1,955	1,955	5,635	5,635	5,635
Wichita	2,651	2,575	2,457	2,457	2,457
Denver	2,978	3,194	3,898	3,898	3,898
St. Paul	9,217	12,226	13,501	28,894	20,227
Milwaukee	3,091	3,354	6,646	6,646	6,646
Indianapolis	6,356	5,065	10,506	10,506	10,506
Cincinnati	3,071	1,989	1,935	1,935	1,935
Ft. Worth	4,002	5,398	7,045	7,045	7,045
Total	141,574	119,740	128,657	208,657	193,657

HOGS.

	Week ended	Cor. week,	Dec. 2.	Prev. week,	Dec. 1.
Chicago	70,585	47,283	877	877	877
Kansas City	13,007	8,657	7,557	7,557	7,557
Omaha	30,589	32,154	35,905	35,905	35,905
East St. Louis	58,405	34,980	62,067	62,067	62,067
St. Joseph	22,323	16,666	16,629	16,629	16,629
Sioux City	29,565	28,894	28,894	28,894	28,894
Oklahoma City	6,154	4,490	6,154	6,154	6,154
Wichita	5,896	5,893	2,305	2,305	2,305
Denver	5,249	5,863	7,463	7,463	7,463
St. Paul	51,877	58,423	64,290	64,290	64,290
Milwaukee	11,084	10,916	18,373	18,373	18,373
Indianapolis	54,067	35,328	55,870	55,870	55,870
Cincinnati	19,567	14,348	20,158	20,158	20,158
Ft. Worth	4,272	4,530	5,138	5,138	5,138
Total	382,890	311,187	323,013	323,013	323,013

SHEEP.

	Week ended	Cor. week,	Dec. 2.	Prev. week,	Dec. 1.
Chicago	47,782	28,207	1,461	1,461	1,461
Kansas City	15,456	15,924	20,819	20,819	20,819
Omaha	11,759	14,378	20,360	20,360	20,360
East St. Louis	12,260	7,881	18,513	18,513	18,513
St. Joseph	13,576	11,874	13,390	13,390	13,390
Sioux City	9,869	8,584	12,614	12,614	12,614
Oklahoma City	2,329	2,950	2,845	2,845	2,845
Wichita	1,675	5,682	2,210	2,210	2,210
Denver	7,113	11,060	22,577	22,577	22,577
St. Paul	11,169	16,516	20,316	20,316	20,316
Milwaukee	1,330	1,821	4,546	4,546	4,546
Indianapolis	13,257	7,297	14,610	14,610	14,610
Cincinnati	2,824	916	1,667	1,667	1,667
Ft. Worth	5,841	6,190	8,671	8,671	8,671
Total	157,010	139,897	164,385	164,385	164,385

* Cattle and calves.

† Not including directs.

‡ Figures incomplete because of Yards' strike.

CHICAGO LIVESTOCK

Statistics of livestock at the Chicago Union Stock Yards for current and comparative periods.

RECEIPTS.

	Cattle	Calves	Hogs	Sheep
Mon., Nov. 27	17,397	1,615	35,070	11,134
Tues., Nov. 28	12,607	1,475	32,412	18,385
Wed., Nov. 29	8,842	1,104	21,050	7,969
Thurs., Nov. 30	3,762	948	16,438	7,887
Fri., Dec. 1	1,350	589	16,328	6,645
Sat., Dec. 2	400	100	0,000	4,000
Total this week	44,833	5,831	127,308	55,950
Previous week	36,387	4,488	113,300	40,227
Year ago	7,688	1,129	37,995	15,651
Two years ago	42,891	7,166	103,752	47,650

SHIPMENTS.

	Cattle	Calves	Hogs	Sheep
Mon., Nov. 27	3,705	218	2,702	2,217
Tues., Nov. 28	2,996	234	2,922	2,137
Wed., Nov. 29	3,127	95	1,412	1,036
Thurs., Nov. 30	1,916	67	1,220	2,162
Fri., Dec. 1	1,274	152	2,714	2,415
Sat., Dec. 2	100	.....	.....	500
Total this week	12,821	818	9,370	11,369
Previous week	10,990	5,713	8,413	8,092
Year ago	3,091	634	8	1,481
Two years ago	20,719	1,713	15,714	15,341

* Including 120 cattle, 647 calves, 45,498 hogs and 5,727 sheep direct to packers from other points.

† All receipts include directs.

DECEMBER AND YEAR RECEIPTS.

Receipts thus far this month and year to date with comparisons:

—December 1939. ——————Year

	1939.	1938.
Cattle	1,750	2,333
Calves	689	489
Hogs	22,328	12,496
Sheep	10,645	7,472

† All receipts include directs.

‡ Based on Wednesday's prices.

§ Only show rejects sold.

SLAUGHTER REPORTS

Special reports to THE NATIONAL PROVISIONER show the number of livestock slaughtered at 16 centers for the week ended December 2, 1939.

CATTLE.			
	Week ended Dec. 2.	Prev. week.	Cor. 1938.
Chicago	27,418	19,754	2,9481
Kansas City	15,415	14,363	20,303
Omaha	13,376	14,570	19,283
East St. Louis	11,627	8,131	11,374
St. Joseph	6,353	4,821	5,912
Sioux City	5,774	6,578	6,171
Wichita	4,465	3,658	3,505
Fort Worth	4,002	3,398	3,753
Philadelphia	1,966	1,714	2,074
Indianapolis	1,807	1,390	2,004
New York & Jersey City	9,366	6,797	9,842
Oklahoma City	3,961	6,929	7,391
Cincinnati	3,901	2,228	4,467
Denver	3,680	3,542	4,135
St. Paul	7,101	8,856	11,160
Milwaukee	3,013	3,188	4,280
Total	122,825	113,226	127,525

*Cattle and calves.

HOGS.			
Chicago	139,277	99,273	114,241
Kansas City	52,886	45,387	42,419
Omaha	47,908	53,990	48,101
East St. Louis	72,861	55,871	79,927
St. Joseph	23,252	10,172	18,600
Sioux City	40,661	43,570	38,696
Wichita	7,888	8,580	8,781
Fort Worth	4,272	4,530	5,138
Philadelphia	18,903	17,249	18,752
Indians	2,022	18,922	22,767
New York & Jersey City	50,928	48,806	52,644
Oklahoma City	6,524	8,841	7,538
Cincinnati	15,212	13,975	16,968
Denver	6,453	6,538	6,275
St. Paul	51,877	58,423	78,180
Milwaukee	10,869	10,188	13,952
Total	577,387	506,705	568,300

¹ Includes National Stock Yards, East St. Louis, Illinois, and St. Louis, Mo.

SHEEP.			
Chicago	38,148	22,164	1,461
Kansas City	15,456	15,924	20,819
Omaha	14,231	15,101	22,471
East St. Louis	10,975	7,240	14,064
St. Joseph	15,215	11,874	13,179
Sioux City	10,221	9,317	8,863
Wichita	1,675	2,084	2,216
Fort Worth	5,841	6,190	8,671
Philadelphia	3,429	2,640	5,069
Indianapolis	3,638	1,950	3,861
New York & Jersey City	11,131	47,037	79,638
Oklahoma City	2,329	2,950	3,115
Cincinnati	1,924	949	2,555
Denver	5,025	5,020	7,257
St. Paul	11,939	16,816	20,316
Milwaukee	1,327	1,154	1,398
Total	203,154	168,440	211,423

† Not including directs.

‡ No market at Chicago because of Yards' strike.

LIVESTOCK COST AND YIELD

Average cost, yield and weight of livestock slaughtered under federal inspection, October, 1939:

	Oct., 1939.	Sept., 1939.	Oct., 1938.
Average cost per 100 lbs.:			
Cattle	\$7.85	\$7.76	\$6.95
Steers	9.13	9.25	9.55
Calves	8.01	8.44	7.80
Hogs	6.84	7.27	7.87
Sheep and lambs	8.23	8.42	7.26

Average yields, per cent:			
Cattle	53.20	54.07	52.65
Calves	54.78	54.73	54.88
Hogs	74.66	74.90	73.14
Sheep and lambs	46.57	47.13	46.97
Lard	12.80	12.70	12.34

Average live weight, lbs.:			
Cattle	940.06	940.81	914.83
Steers	1,006.15	1,009.21	971.44
Calves	210.86	215.86	210.75
Hogs	227.35	234.63	220.03
Sheep and lambs	84.45	82.02	82.88

PACIFIC COAST LIVESTOCK

Receipts for 5 days ended Dec. 1:

	Cattle.	Calves.	Hogs.	Sheep.
Los Angeles	5,052	1,736	3,400	1,818
San Francisco	1,050	65	2,300	4,125
Portland	2,150	310	4,630	1,500

MEAT SUPPLIES AT EASTERN MARKETS

(Reported by the U. S. Bureau of Agricultural Economics.)

WESTERN DRESSED MEATS.

	NEW YORK.	PHILA.	BOSTON.
Week ending December 2, 1939	7,719	2,514	2,111
Week previous	8,667	2,772	2,668
Same week year ago	9,811	2,522	2,622
Week ending December 2, 1939	834	1,251	2,144
Week previous	992	843	2,916
Same week year ago	1,753	1,883	3,069
Week ending December 2, 1939	284	390	10
Week previous	339	660	15
Same week year ago	564	438	21
Week ending December 2, 1939	7,690	1,612	810
Week previous	9,698	1,169	1,285
Same week year ago	10,286	1,777	1,035
Week ending December 2, 1939	39,335	14,863	13,001
Week previous	40,978	13,445	19,552
Same week year ago	42,083	16,030	14,820
Week ending December 2, 1939	1,371	307	161
Week previous	1,746	347	1,920
Same week year ago	2,444	563	367
Week ending December 2, 1939	2,553,680	450,480	421,414
Week previous	2,234,747	375,485	609,048
Same week year ago	2,295,271	710,144	373,375
Week ending December 2, 1939	250,459	.....	.....
Week previous	204,862	.....	.....
Same week year ago	705,482	.....	.....

LOCAL SLAUGHTERS.

	NEW YORK.	PHILA.	BOSTON.
Week ending December 2, 1939	9,366	1,968	.....
Week previous	6,797	1,714	.....
Same week year ago	9,842	2,074	.....
Week ending December 2, 1939	11,603	2,236	.....
Week previous	12,176	1,696	.....
Same week year ago	15,187	2,795	.....
Week ending December 2, 1939	50,928	18,903	.....
Week previous	42,896	17,249	.....
Same week year ago	50,493	18,752	.....
Week ending December 2, 1939	61,781	8,429	.....
Week previous	47,067	2,640	.....
Same week year ago	76,638	5,069	.....

Country dressed product at New York totaled 2,949 veal, 97 hogs and 150 lambs. Previous week 2,593 veal, 365 hogs and 231 lambs in addition to that shown above.

LIVESTOCK SUPPLY SOURCES

Percentage of livestock slaughtered during October, bought at stockyards and direct, is reported by the U. S. Department of Agriculture as follows:

	OCT., 1939.	SEPT., 1939.	OCT., 1938.
	PER CENT.	PER CENT.	PER CENT.
Cattle—			
Stockyards	76.32	74.40	77.79
Other	23.68	25.60	22.21
Calves—			
Stockyards	66.11	65.53	68.16
Other	33.89	34.47	31.84
Hogs—			
Stockyards	47.27	51.65	47.28
Other	52.73	48.95	52.72
Sheep and lambs—			
Stockyards	58.60	64.12	63.99
Other	41.40	35.88	36.01

CANADIAN LIVESTOCK PRICES

STEERS.

	Week ended Nov. 30.	Last week.	Same week 1938.
Toronto	\$ 7.75	\$ 7.50	\$ 7.00
Montreal	7.85	7.60	6.65
Winnipeg	7.00	6.25	6.25
Calgary	6.50	7.00	5.25
Edmonton	6.50	6.50	5.50
Prince Albert	6.00	5.75	5.00
Moose Jaw	6.00	6.25	5.25
Saskatoon	6.50	6.50	4.75
Regina	7.00	6.25	5.50
Vancouver	7.25	7.00	5.50

VEAL CALVES.

	TORONTO.	MONTRAL.	WINNIPEG.	REGINA.
Toronto	\$ 11.00	\$ 11.00	\$ 11.00	.....
Montreal	11.00	11.00	10.50	.....
Winnipeg	10.00	9.50	9.00	.....
Calgary	7.50	7.00	6.00	.....
Edmonton	8.00	8.00	6.50	.....
Prince Albert	7.25	6.75	5.50	.....
Moose Jaw	7.50	7.00	5.00	.....
Saskatoon	8.20	7.95	7.75	.....
Regina	8.25	8.00	8.00	.....
Vancouver	8.25	8.25	8.25	.....

¹ Montreal and Winnipeg hogs sold on a "F. & W." basis; all others "on trucks."

GOOD LAMBS.

	TORONTO.	MONTRAL.	WINNIPEG.	REGINA.
Toronto	\$10.50	\$10.25	\$ 8.75	.....
Montreal	10.00	10.75	8.50	.....
Winnipeg	9.00	9.00	6.75	.....
Calgary	8.60	9.00	6.75	.....
Edmonton	8.25	8.00	6.75	.....
Prince Albert	7.75	7.35	6.00	.....
Moose Jaw	8.00	7.50	6.50	.....
Saskatoon	8.00	7.50	6.50	.....
Regina	8.00	7.75	6.25	.....
Vancouver	9.50	9.25	.....	.....

BRITISH EMPIRE GREETINGS

Holiday greetings are arriving from subscribers to THE NATIONAL PROVISIONER in the British Empire. From the other side of the world—Perth, West Australia—comes a greeting from J. S. Corden & Co., well known equipment distributors, in which managing director Graham Doonan expresses hope "the world will see the message and spirit of Christmas exemplified throughout the New Year."

A calendar refill comes from W. J. Kempner Ltd., Smithfield, London. These distributors of animal casings are successors to S. Oppenheimer & Co. Ltd. at that point.

G. B. Field & Co. Ltd., London, sends a 1940 calendar featuring an original etching of the statue of Eros by J. H. Wiley, erected in Piccadilly, London, in 1893. In addition to its London headquarters, the Field company has branches in Liverpool, Glasgow, Newcastle-on-Tyne, Birmingham and Bristol.

On this side of the Atlantic there is keen appreciation of the spirit of Christmas coming from lands saddened by war, but where the hope for peace and good will is still alive.

Wilson 4-H Dinner

(Continued from page 15.)

phase of the agriculture of each state are shown on the various pages with photographs of pioneers in each state's 4-H club movement.

Pioneer activities of the National Committee on Boys and Girls Club Work, which has played such an important part in bringing the work of the clubs to the attention of business and industry, also are reviewed. An organization chart of 4-H club work in brief; the 4-H club pledge; "America, the Beautiful," and the ideal of the Wilson & Co. organization complete the souvenir.

Following the dinner and entertainment, busses took the young people and their leaders back to the stock yards where they were in charge of the opening feature of the evening program at the International.

WHOLESALE DRESSED MEAT PRICES

Wholesale prices of Western dressed meats quoted by the U. S. Agricultural Marketing Service at Chicago and Eastern markets on December 6, 1939.

	CHICAGO.	BOSTON.	NEW YORK.	PHILA.
Fresh Beef:				
STEER, Choice ¹ :				
400-500 lbs.	\$16.50@17.50	.....	\$17.00@18.00	\$17.50@18.00
500-600 lbs.	16.00@17.50	.....	16.00@17.00	17.00@17.50
600-700 lbs.	15.00@16.50	\$15.00@16.50	16.00@17.00	17.00@17.50
700-800 lbs.	14.50@15.50	15.00@16.00	15.00@16.50	16.50@17.50
STEER, Good ² :				
400-500 lbs.	15.50@16.50	.....	15.00@17.00	15.50@17.00
500-600 lbs.	14.50@16.00	.....	14.00@16.00	14.50@16.00
600-700 lbs.	13.50@15.00	14.00@15.00	14.00@15.00	14.50@16.00
700-800 lbs.	13.50@14.50	14.00@15.00	14.00@15.00	14.50@16.00
STEER, Commercial:				
400-600 lbs.	12.50@14.50	.....	13.00@14.00	13.00@14.50
600-700 lbs.	12.50@13.50	13.00@14.00	13.00@14.00	13.00@14.50
STEER, Utility ³ :				
400-600 lbs.	11.00@12.50	12.00@13.00	12.00@13.00	.....
COW (all weights):				
Commercial	11.00@12.50	12.00@12.50	11.50@12.50	11.00@12.00
Utility	10.25@11.50	11.00@12.00	11.00@11.50	11.00@12.00
Cutter	9.75@10.25	10.00@11.00	10.00@11.00	10.00@11.00
Canner	9.25@9.15	.....	.....	.....
Fresh Veal and Calf:				
VEAL (all weights) ⁴ :				
Choice	14.00@15.00	14.50@15.50	15.00@16.00	16.00@17.00
Good	13.00@14.00	13.50@14.50	13.00@15.00	14.50@16.00
Medium	11.00@13.00	11.50@13.50	11.50@13.00	12.50@14.50
Common	10.00@11.00	10.50@11.50	10.50@11.50	11.00@12.50
CALF (all weights) ⁵ :				
Choice ....	.....	.....	12.50@13.50	13.00@14.00
Good	12.50@13.50	.....	11.00@12.50	12.00@13.00
Medium	11.00@12.50	.....	10.50@11.00	11.00@12.00
Common	10.00@11.00	.....	.....	.....
Fresh Lamb and Mutton:				
LAMB, Choice:				
38 lbs. down	15.00@16.00	16.00@17.00	16.00@17.00	17.00@18.00
39-45 lbs.	14.50@15.50	15.50@16.50	15.00@16.00	16.50@17.50
46-55 lbs.	14.00@15.00	14.50@15.50	14.00@15.00	15.00@16.00
LAMB, Good:				
38 lbs. down	14.00@15.00	15.50@16.50	15.00@16.00	16.50@17.00
39-45 lbs.	13.50@14.50	14.50@15.50	14.00@15.00	16.00@16.50
46-55 lbs.	13.00@14.00	13.50@14.50	13.00@14.00	15.00@16.00
LAMB, Medium:				
All weights	12.00@13.50	13.00@14.50	13.00@14.00	15.00@16.00
LAMB, Common:				
All weights	11.00@12.00	12.00@13.50	12.00@13.00	13.00@14.00
MUTTON (Ewe), 70 lbs. down:				
Good	6.50@7.50	.....	8.00@9.00	.....
Medium	6.00@6.50	.....	7.00@8.00	.....
Common	5.00@6.00	.....	6.00@7.00	.....
Fresh Pork Cuts:				
LOINS:				
8-10 lbs.	12.00@13.00	12.50@13.50	12.50@13.00	12.00@13.00
10-12 lbs.	12.00@13.00	12.50@13.00	12.50@13.00	12.00@13.00
12-15 lbs.	11.50@12.00	12.00@12.50	12.00@12.50	11.50@12.50
16-22 lbs.	10.50@11.50	.....	.....	.....
SHOULDERS, Skinned, N. Y. Style:				
8-12 lbs.	9.00@10.00	.....	10.50@11.50	11.00@12.00
PICNICS:				
6-8 lbs.	9.00@9.50	10.50@11.50	.....	.....
BUTTS, Boston Style:				
4-6 lbs.	10.00@11.00	.....	12.00@13.00	12.00@13.00
SPARE RIBS:				
Half Sheets	9.00@10.00	.....	.....	.....
TRIMMINGS:				
Regular	5.50@6.00	.....	.....	.....

¹ Includes heifers 300-450 lbs. and steer down to 300 lbs. at Chicago. ² "Skin on" at New York and Chicago. ³ Includes sides at Boston and Philadelphia.

Fearn Laboratories, Inc.
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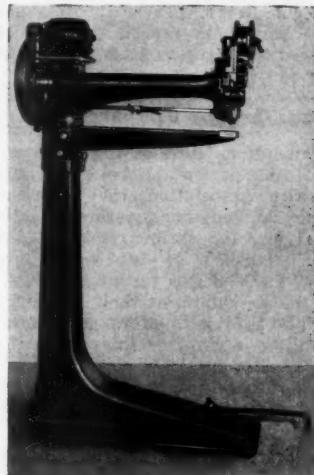
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This box, now manufactured by leading Container Companies, is available to the Packing Industry for use in shipping many kinds of meat products.

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Meat to the Front

(Continued from page 19.)

not be overlooked, Mr. Pollock said. He brought out that the 600,000 physicians, dentists, nurses, and dietitians in this country have a striking influence on its dietary habits. Until a relatively few years ago a large percentage of these persons held a mistaken conception of the health and nutritive value of meat. This is not strange considering the anti-meat propaganda so prevalent at that time. That picture has greatly changed in recent years. These professional groups have been especially receptive to the story of meat in its relation to proper nutrition.

Medical Groups Cooperate

Organizations such as the American Medical Association, the American Public Health Association, the American Academy of Pediatrics, national dental associations, and various sectional and state associations in these fields have requested the Board to set up educational meat exhibits at their meetings. This fact in itself, offers substantial proof of their growing interest in the place of meat in the diet. It was believed that these groups should be given increasing attention in future meat promotion.

The statement that in any industry the research dollar is the most profitable investment, certainly holds true of meat research, Mr. Pollock said. "In

an age when the consuming public is thinking more and more in terms of the health and nutritive value of the foods served on America's tables, the value of meat facts backed by scientific proof, is self-evident," he stated.

Calling attention to the progress made in a national cooperative meat investigations project, in which the Board works closely with 20 state agricultural experiment stations and the United States Department of Agriculture, Mr. Pollock said:

Feeding Facts Needed

"We need to know more as to what feeds and feeding methods are best calculated to insure high quality meat. More information is needed concerning fattening of meat animals at different levels of feeding, the effect of age of animal, and other factors upon quality and palatability of meat. More must be learned of the influence of various processing methods and cookery methods in order to produce the utmost of consumer satisfaction in meat served on America's tables.

"Many problems have been solved through meat research and others seem on the way to solution, while still others remain unsolved. It is felt that past results are helping to pave the way for moving forward with greater assurance in the future."

Members of the board of directors of the National Live Stock and Meat Board who attended the semi-annual

meeting at Chicago this week included Albert K. Mitchell, chairman, Bell Ranch, N. M.; John W. Rath, Rath Packing Co., Waterloo, Ia.; C. W. H. Strelle, Cincinnati, O.; H. G. Keeney, Omaha, Neb.; O. M. Plummer, Portland, Ore.; C. W. Mitchell, Springfield, Ill.; F. G. Ketner, Columbus, O.; F. R. Marshall, Salt Lake City, Utah; O. O. Wolf, Ottawa, Kas.; Jay Taylor, Amarillo, Tex.; Will J. Miller, Topeka, Kas.; H. W. Farr, Greeley, Colo.; D. M. Hildebrand, Seward, Nebraska, and I. W. Ringer, Seattle, Wash.

STUDENTS KNOW THEIR MEAT

Fifteen meat judging teams from as many different states and Canada participated in the fourteenth annual intercollegiate meat judging contest at the International Live Stock Exposition this week. The University of Wisconsin team of three won with 2,418 points out of a possible 2,700. The team from Kansas State College was a runner-up with 2,371 points and the University of Missouri team was third with a score of 2,358 points.

Twelve other teams from state universities or agricultural colleges finished in the following order: Pennsylvania, Oklahoma, Minnesota, Texas, Nebraska, South Dakota, Ohio, Illinois, Ontario (Canada), Massachusetts, Iowa and Illinois Normal University.

Members of the winning Wisconsin team were Francis A. Spurrell, Harold A. Henneman and Lyle Viney. That the boys "know their meat" was shown by the fact that all three placed among the ten highest individuals of the contest.

The South Dakota team won first in judging beef, Wisconsin was first in judging pork, and Texas A. & M. College won highest rank in judging lamb. High man in judging beef was L. H. Mead of Texas A. & M. College, Spurrell of Wisconsin was high man in judging pork, and Charles J. Lutz, University of Illinois, was high in judging lamb.

The 45 contestants were required to judge carcasses and wholesale cuts of beef, pork and lamb and to give written reasons for their placings. The contest is conducted annually by the National Live Stock and Meat Board cooperating with the International management and colleges and universities. Animal husbandry instructors regard this contest as the high point of the year in their meat courses and invaluable to their students.

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CLEVELAND STOCK SHOW

Three hundred fat steers were shown at the Cleveland Junior Fat Stock Show, held at Cleveland Stock Yards on November 30. Grand champion steer was a 900-lb. Shorthorn, exhibited by Robert Griffith of Columbus Grove, O. The steer sold for 65c per lb. to Clarke's Restaurant in Cleveland.



MORRELL POLISH STYLE HAM

Here is a new, mild, unsmoked canned ham—an American-made product prepared in the continental style that has been so popular. One of the finest hams in appearance, taste, texture, and workmanship that has ever been offered to the trade.

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Position Wanted

Assistant

With general packinghouse experience covering various departments . . . sales, office, purchasing, processing, etc. Qualified to serve as assistant to busy executive. Intelligent, willing worker. Can assume responsibility and ready to go anywhere. W-752, THE NATIONAL PROVISIONER, 300 Madison Ave., New York City.

Experienced Sausagemaker

Position wanted by reliable, experienced sausagemaker. Can make full line and lower production cost. Steady, sober and conscientious worker. W-760, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

Sausagemaker Foreman

All around man with 20 years of experience, chopping, stuffing and smoking, seeks steady position with reliable firm, with chances of advancement. W-757, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

Casing Foreman

All around casing man, including new fresh hog cleaning process. Can handle men, and departments efficiently. Married and can furnish the best of references. Willing to go anywhere. W-754, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

Business Opportunities

Packinghouse

For sale in San Jose, California, packing plant and slaughterhouse, with up-to-date hog killing plant. Enough corrals to feed 1500 head of cattle. Two railroads right in yards. Complete slaughterhouse and hog killing machinery. Clover Realty Co., 522 Clay St., San Francisco, Calif.

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Packing Plant

For sale, complete packing plant. This plant is located in the center of oil district of 200,000 population within a radius of 60 miles. Capacity of 75 cattle and 200 hogs per week. Stone and concrete buildings, in perfect repair. Plenty of livestock in this vicinity. All paved roads. Joins stockyards. Write or wire Alex Oliphant, Holdenville, Oklahoma.

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I will sell my interest in small beef and hog killing plant located in north central Iowa. Doing good business. Cannot stand indoor work. Special opportunity for good sausagemaker with small amount of capital to invest. For full particulars write W-756, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

Equipment Wanted

Rendering Machinery

Wanted for user, Hydraulic Curb Press and Pump; Rotary Dryer; Kettles; 2-Filter Presses; Evaporator; Cooker; Lard Cooling Roll. What have you to offer. W-718, THE NATIONAL PROVISIONER, 300 Madison Ave., New York City.

Men Wanted

Office Manager

WANTED: Office Manager to handle small office for national packing house concern. Must understand office routine and be well acquainted with credits in Greater New York. Answer in detail, stating age, experience, salary expected. W-758, THE NATIONAL PROVISIONER, 300 Madison Ave., New York City.

Working Sausage Foreman

Working Sausage Foreman wanted—must have full knowledge of specialties, loaves and kosher style sausage. References desired. W-759, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

Wanted

ARCHITECTURAL DRAFTSMAN
—Familiar with Packing Plant construction. State experience and salary. Address—Henschien, Everds & Crombie, 59 East Van Buren St., Chicago, Ill.

Equipment for Sale

The Bunn Tying Machine

is used very generally by packers for tying sausage boxes, bacon squares, picnics, butts, etc. Ties 20-30 packages per minute. Saves twine. Write for our 10-day free trial offer. B. H. Bunn Co., 7609 Vincennes Ave., Chicago, Ill.

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CONSOLIDATED PRODUCTS CO., INC.
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For Sale: 1 No. 32 Buffalo Silent Cutter and motor; 1 No. 27 Buffalo Silent Cutter and motor; 1 400 lb. Buffalo Mixer and motor; 1 Buffalo Bacon Skinner and motor; 1 Buffalo Pork Fat Cuber; all thoroughly overhauled—guaranteed like new. FS-739, THE NATIONAL PROVISIONER, 407 So. Dearborn St., Chicago, Ill.

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of these
OPPORTUNITIES**

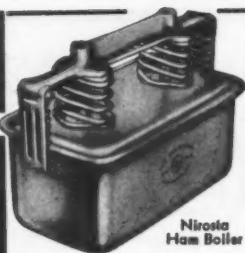
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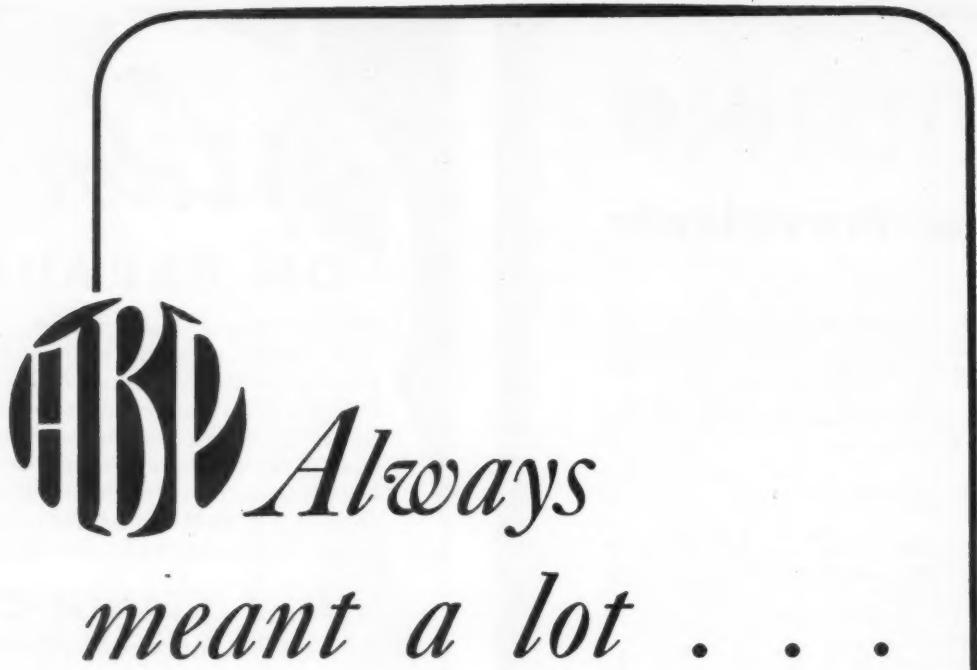
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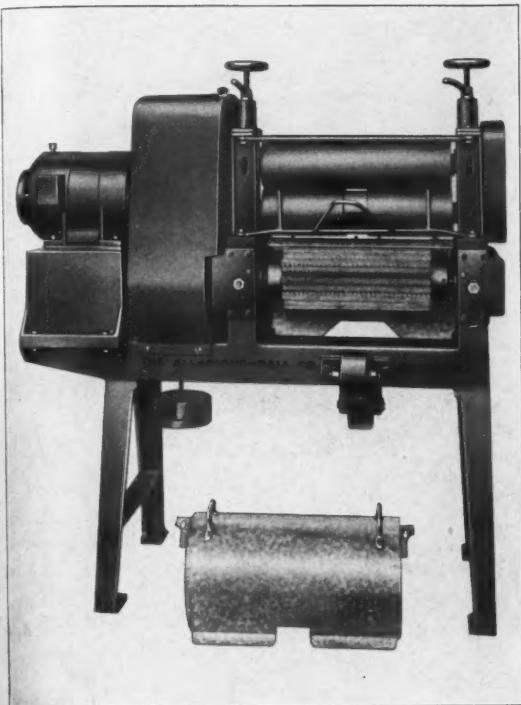
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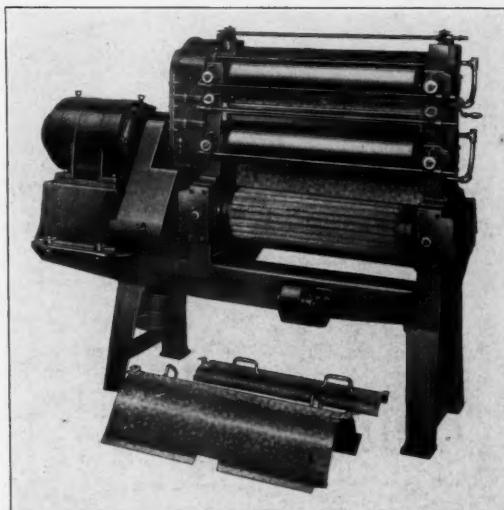
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